DOCUMENT RESUME

ED 138 139 HE 008 792

AUTHOR	Dixon, James P.; And Others
TITLE	Future Nigerian-U.S. Linkages in Higher Education.
INSTITUTION	American Council on Education, Washington, D.C. Overseas Liason Committee.
SPONS AGENCY	Agency for International Development (Dept. of State), Washington, D.C.
PUB DATE	May 77
CONTRACT	AID/sod-C-15
NOTE	130p.; Some tables may be marginally legible due to fine print
AVAILABLE FROM	Overseas Liaison Committee, American Council on Education, One Dupont Circle, Suite 800, Washington, D.C. 20036
EDRS PRICE	MF-$0.83 HC-$7.35 Plus Postage.
DESCRIPTORS	Cooperative Planning; *Developing Nations; *Educational Development; Foreign Countries; *Higher Education; *Interinstitutional Cooperation; *International Educational Exchange; *International Programs; Personnel Needs; Staff Improvement; Universities
IDENTIFIERS	Africa; National Universities Commission (Nigeria); *Nigeria

ABSTRACT

Nigeria is the most populous African country and the one most critical for U.S. relations with black peoples everywhere. It has a revitalized National Universities Commission (NUC), an ambitious new educational policy, and six old and seven new universities. The challenge is to find effective means of Nigerian access to the appropriate and interested U.S. universities out of the baffling total and to foster linkages in pursuit of mutually held objectives. That was the task undertaken by the five-man team that visited Nigeria in 1977, at the request of the NUC, organized by the American Council on Education, and cosponsored by the NUC and the U.S. Agency for International Development. Recommendations are made for maximizing U.S. university assistance to Nigerian university education in three areas: (1) overseas staff recruitment; (2) in-country staff development; and (3) interuniversity linkages for developmental purposes. (Author/MSE)

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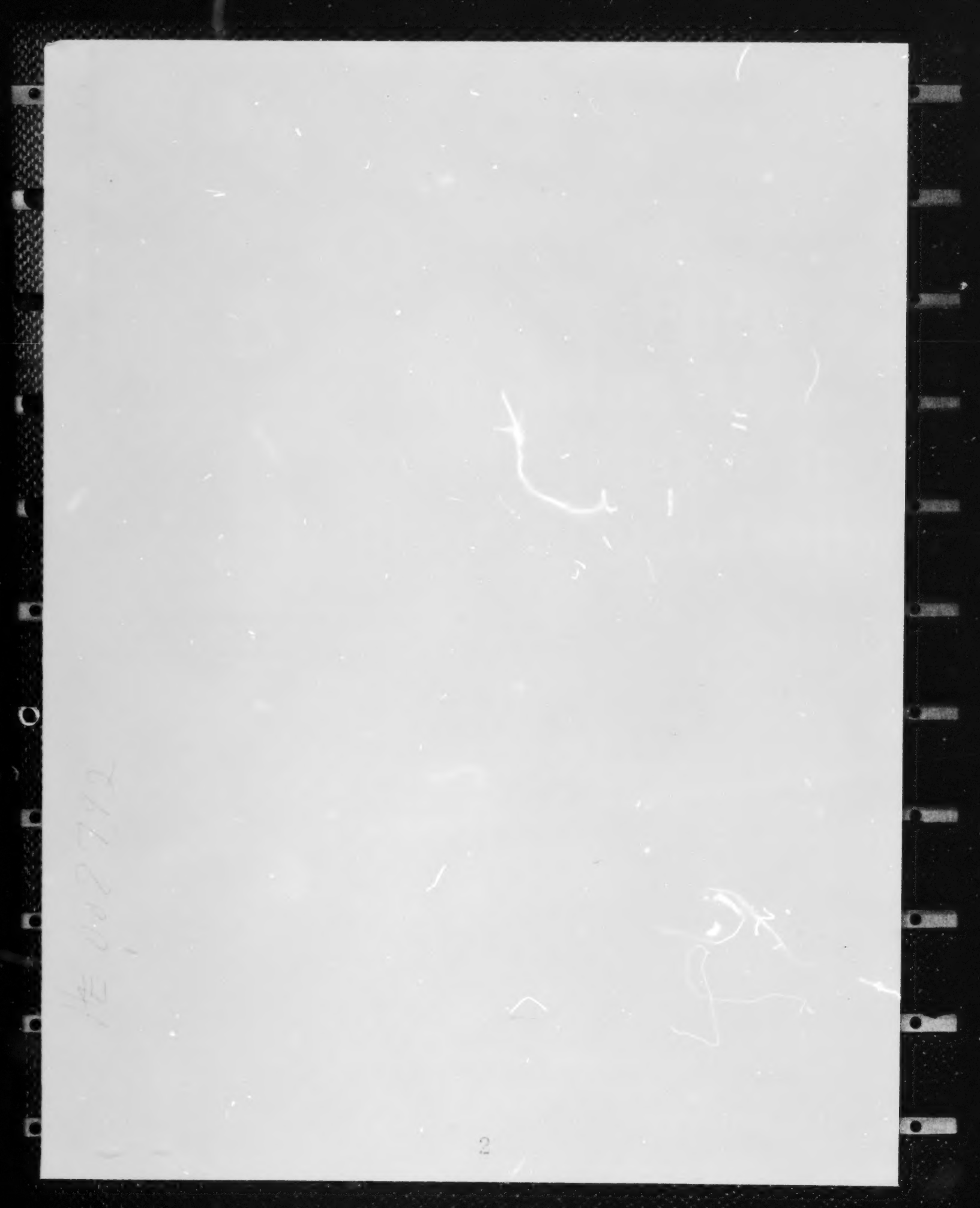

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FUTURE NIGERIAN-U.S. LINKAGES IN HIGHER EDUCATION

by

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May 1977

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This report has been prepared under contract No. AID/sod C-15
The Agency for International Development,
The United States Department of State

Single copies of this report can be ordered without charge from the Overseas Liaison Committee while supply is available. Multiple copies of this publication are available through the ERIC Document Reproduction Service, P.O. Box 190, Arlington, Virginia 22210. This publication is catalogued under number HE 008-792 and is available on microfiche for $.83 plus $.13 postage or in paper copy at $7.35 plus $.45 postage.

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CHAPTER I

INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

The subject of this report brings together several academic superlatives. It deals with university education in the most populous African country (75,000,000 to 80,000,000) and the one most critical for U.S. relations with black peoples everywhere. It addresses the most complicated set of currently attempted collaborative efforts between a developed and a developing nation at the higher educational level: making order out of the relation between hundreds of institutions in the United States and the aspirations of a nation with a revitalized National Universities Commission, an ambitious new educational policy, and six old and seven new universities. Finally, it attempts to cope with what may be the largest national request ever made of U.S. higher education for university-building assistance overseas, particularly for academic staff and interuniversity linkages.

The challenge is to find effective means of Nigerian access to the appropriate and interested U.S. universities out of the baffling total and to foster linkages in pursuit of mutually held objectives. That was the task undertaken by the five-man team which visited Nigeria, February 21 through March 14, 1977, at the request of the National Universities Commission (hereafter NUC), which had sent a Staff Scouting Team to the United States in June-July, 1976. The American team was organized by the Overseas Liaison Committee of the American Council on Education (hereafter OLC/ACE) and co-sponsored by the NUC and the U.S. Agency for International Development under Section 661 of the Foreign Assistance Act which provides the authority for A.I.D. to help friendly countries identify their development priorities.

The charge to the team was to produce action-oriented recommendations to the NUC and other interested American and Nigerian parties on maximizing U.S. university assistance to Nigerian university education in three areas:

1. Overseas staff recruitment
2. In-country staff development
3. Interuniversity linkages for developmental purposes.

The team met in Washington, D.C., for briefings and discussions before going abroad. In Nigeria, it traveled by commercial plane, air charter, and automobile to every new university (seven) and every existing one (six) except Ahmadu Bello University, which was missed by bad luck of the weather rather than of the number, thirteen. Meetings were held with Vice-Chancellors, Deans, and key faculty members. Visits were made to all new sites. For essential briefing purposes, the team was privileged to meet with the Chief of Staff, Supreme Headquarters, Brigadier S. Yar'Abdua; the Commissioner of Education (Ministry of Education), Colonel A.A. Ali; the Chairman of the NUC, Chief S.O. Adebo (formerly Nigerian Representative to the United Nations); and U.S. Ambassador Easum--usually with members of their staffs. At the beginning and end, briefing and debriefing meetings were held with Dr. Jibril Aminu, Executive Secretary of the NUC, and his key aides.

The report assumes much that is not explained for the general reader but some underlying observations may help at the outset.

If American universities continue to prize transnational university relations, the current opportunities offered in Nigeria are without comparable challenge since the days of institution-building in India, and with greater potential reciprocity. Current Nigerian university plans are extremely ambitious in both scope and schedule, and particularly so in the health professions, with the likelihood that overall goals will be adhered

to but the schedule delayed somewhat. Of the three requests made by the NUC, American higher education can be of most assistance (a) through selective and systematized linkages with Nigerian universities; (b) through aid to Nigerian staff development plans; and of least assistance (c) through open-market recruitment (or what has been inelegantly called, "body shopping").

With the end of U.S. bilateral concessional aid to Nigeria in June 1977, new funding strategies for university relations are called for. New funding sources external to the universities will be essential and despite reciprocal U.S. university benefits and even continued core support, the "balance of payments" will hereafter call for Nigerian funding of an unprecedented order. In short, without increased funds from the combined sources, including salary topping-up arrangements, no collaborative scheme can succeed. Finally, out of both self-interest and altruism, the United States and its universities should respond affirmatively to Nigeria's request and, in the absence of existing organized machinery for doing so, some effective ad hoc means should be devised.

Recommendations are summarized at the outset. Supporting materials follow.

RECOMMENDATIONS

Objective I: Overseas Staff Recruitment

1. That direct recruitment of U.S. personnel should be the responsibility of Nigerian universities, with the OLC/ACE giving facilitative assistance.
2. That effective American participation calls for information clarification, orderly processes, operational manageability, and policy coordination which the NUC and the Nigerian universities will agree upon and implement through a Nigerian universities' office in Washington, D.C.
3. That the OLC/ACE establish a facilitative relationship with the NUC office, when established in Washington, minimally with an OLC staff member designated as the Liaison Officer for Nigeria.
4. That the Liaison Officer for Nigeria, under the supervision of the Director of OLC, aid the NUC counterpart to develop relations with U.S. universities, to utilize professional communications media, to create an effective recruitment process, to identify interview panels, to harness the cooperation of the associations in the American Council on Education, and to foster other modes of orderly access to the American academic community.
5. That the NUC, with OLC collaboration, work out and present to the American academic community the necessary conditions for U.S. recruitment for the Nigerian universities, including (a) a realistic employment prospectus with detailed conditions of service and available amenities, as prepared by the NUC; (b) the research opportunities in special fields and other supplementary activities beyond

teaching; (c) the solicitation of cooperation from the Offices of International Programs or equivalent units in U.S. universities; and (d) the use of academic personnel experienced in Nigeria as recruitment aides.

6. That the NUC, with the facilitation of OLC/ACE, utilize the "open market" as the primary but not sole means of recruiting lower-level teaching personnel (recognizing that interuniversity linkages, if established, would effectively supplement the market).

7. That senior-level personnel be recruited by the NUC on a more structured basis for program development, research development, and general academic leadership through

   (a) interinstitutional linkages as recommended below;

   (b) use of professional associations in the United States;

   (c) creation and use of special U.S. awards tenable in Nigeria for a year on a renewable basis, honorific by virtue of national selection, and attractive to U.S. senior academics for career advancement, utilizing the Fulbright-Hays machinery so far as possible and extending that model as necessary.

8. That recruitment of health professionals begin under 6 and 7, as appropriate, but that a longer-term plan be devised by a special working party, composed of U.S. and Nigerian medically oriented academics, which would further clarify general and specific needs and work out a suitable U.S.-Nigerian plan for effective U.S. assistance, particularly in the pre-clinical and basic medical sciences.

9. That effective methods be developed for short-term projects using U.S. personnel, both academic and non-academic and both in the

United States and in Nigeria, for specialized services (e.g., conference leadership; program planning; instruction of non-academic groups with similar functions; in-service education).

10. That a scheme for salary topping-up be devised and made widely known, to assure equity of compensation where Nigerian rates and allowances will not suffice.

11. That special attention also be given other preconditions of successful recruitment, including assured housing, adequate schooling for children, removal of constraints to job performance, research support, and opportunities for spouses.

Objective II: Staff Development Plans

1. That OLC/ACE (a) assist Nigerian universities with their staff development plans through the fullest possible use of existing and experienced American agencies, including the African-American Institute, university graduate schools, and other appropriate and interested institutions; and (b) use its good offices to assist the Nigerian universities with their postgraduate programs, where requested, as an in-country resource for faculty development.

2. That all collaborators in such assistance recognize that admission decisions lie with the U.S. universities in such a jealously guarded manner (including applicant evaluation, availability of spaces, and departmental interest) that responsibility cannot be assumed by OLC/ACE or any other body external to the university.

3. That other forms of staff development be similarly aided, such as
   (a) by serving short-term, less-than-degree needs of Nigerian faculty seeking U.S. university services;
   (b) by identifying appropriate professionals or teams of professionals to direct or participate in in-service education in Nigeria;
   (c) by organizing U.S.-based programs for short-term training when requested;
   (d) by special attention to the needs of academic and administrative support personnel, such as registrars, bursars, librarians, planning officers, directors of works, and technicians.
4. That Nigerian and U.S. universities continue to cooperate in the AFGRAD program administered by the African-American Institute and that extension of that type of plan be explored, including the possibility of Nigerian payment of tuition.
5. That within such interinstitutional linkages as are established, the U.S. cooperator(s) give particular attention to tailor-made programs for Nigerian faculty-in-training, to choice of relevant research topics, to the advantages of thesis work in Nigeria, and to useful ways of interlacing periods of work in Nigeria and America for maximum Nigerian usefulness and continuing relations between professor and student.

Objective III: Interuniversity Linkages

1. That Nigerian universities establish formal links with particular U.S. universities, individually or in systems or consortia, in order

to facilitate the recruitment of the high-level academics required and the assistance needed in Nigerian staff development.

2. That Nigerian institutions seek linkages of sufficient breadth and scope (e.g., at the dean's level) to assure effectiveness, a compounding of experience, and substantive benefits.
3. That as requested by NUC, OLC/ACE assume an active role in identifying interested parties and bringing them together for establishing linkages.
4. That in order to help identify some of the U.S. universities interested in linkages, OLC/ACE consider including in its methods a nationwide meeting to which major graduate-degree-granting universities will be invited to discuss this report and possibilities of educational services to Nigeria.
5. That on the U.S. side, the OLC/ACE explore the possibilities of linkages through systems and consortia of universities, including NUC's requested interest in relations with the Midwest Universities Consortium for International Activities (MUCIA).
6. That the parties to the established linkages, once made, seek to maximize the interinstitutional relationship, with assistance in short-term and long-term personnel exchanges; in admission of Nigerian staff to the linked graduate school or another appropriate one in the United States or Nigeria; in identification and pursuit of research relevant to Nigerian needs; and in contemplation of an enduring twinning relationship.

CHAPTER II

CONTEXT FOR NIGERIAN-AMERICAN UNIVERSITY RELATIONS

A university, whether American or Nigerian, cannot be what it professes unless it embraces cultures other than its own, pursues the continuum of truth which knows no boundaries, and welcomes scholars and ideas from around the world. It seems late for a reminder that U.S. universities would gain from links with overseas universities like those in Nigeria: in awareness of the world and understanding of its developmental problems, in training future contributors to American and Nigerian society, in enrichment of academic life at home, and in putting knowledge to practice.

Nigeria is a critical country in Africa's future. The United States is bound to Africa, and thus to Nigeria, in special ways both culturally and diplomatically. Greatly improved U.S.-Nigerian relations, regarded as inevitable and a return to normal, were repeatedly called to the team's attention during its visit.

A base for linkages exists in actual experience. Interuniversity relations through governmental aid, foundation philanthropy, and spontaneous scholarly exchanges have been numerous enough to point the way both to problems and opportunities. The balance is clearly on the positive side, as Nigerian academics overwhelmingly testify. The U.S. Agency for International Development has put more resources into higher education in Nigeria than in any other African country, although the era of bilateral aid will come to an end in June 1977. All the major U.S. foundations have had significant programs in Nigerian education. Under the auspices of the U.S. Agency for International Development, significant university-to-university linkages existed between:

Kansas State University	and	Ahmadu Bello University (fourteen years)
Teachers College, Columbia	and	University of Lagos (five years)
Michigan State University	and	University of Nigeria (eight years)
New York University	and	University of Lagos (seven years)
University of California, Los Angeles	and	Federal Advanced Teachers Training College, later merged with University of Lagos (seven years)
University of Pittsburgh	and	Ahmadu Bello University (eleven years)
University of Wisconsin	and	University of Ife (ten years)
Johns Hopkins University	and	University of Lagos (three years)
Universities of Connecticut and Massachusetts	and	University of Ife (four and a half years)

Approximately 590 man-years of service were contributed by these U.S. universities to their Nigerian collaborators, and Nigerians received almost as many man-years of training in the United States. This listing is obviously incomplete and omits other American donor agencies, including the foundations, independent educational bodies, and universities with less formal linkages. (For more information, see Appendix A.)

An unprecedented combination of factors makes this a propitious time for Nigerian university development with the assistance of external partners. The attitude of the Federal Military Government is urging explosive university expansion to remove geographical educational imbalances, to foster national unity, and to train high-level manpower--perhaps at a pace which is beyond even the dreams of the academics themselves. A National Policy on Education, issued this year, states the philosophy and specific objectives that underlie the "current massive investments in education" and adopts

education as "an instrument par excellence for effecting national development." This turns out to be a map for the future rather than a description of the present, but it is impressive and forward-looking. By Decree No. 1 (1974), the Federal Military Government reconstituted the National Universities Commission, endowing it with new powers over the funding of all universities, the founding of new ones, and the setting of national guidelines. Now that higher education is on the Exclusive Legislative List of the Federal Government (i.e., under federal control and funding) and seven new universities are starting from scratch, the NUC has an overall role which will significantly affect external relations and partnerships. Finally, the Third National Development Plan also gives specific impetus to university education for high-level manpower training and economic development.

The present configuration of university education in Nigeria combines six existing universities and seven new ones, as follows:

Existing	New
University of Ibadan	University of Calabar
University of Nigeria, Nsukka	University of Jos
University of Lagos	University of Maiduguri
Ahmadu Bello University	University of Sokoto
University of Ife	University College, Ilorin
University of Benin	University College, Port Harcourt
	Bayero University College, Kano

When the country was divided into 12 states, it was commonly assumed that all would eventually have universities. The new ones are a projection of that original intention, and now that there are 19 states, the creation of universities may not be at an end. The designation "University College" is now shown to be without permanent significance and in October the full-fledged university titles will be assumed.

For existing universities, the Third National Development Plan contemplates increased use of existing facilities, with a leveling off at enrollments between 8,500 and 10,000 in each. Established enrollment goals for the new institutions by 1980 are:

Calabar	2,500
Jos	2,500
Maiduguri	1,900
Sokoto	1,900
Kano	2,000
Ilorin	1,900
Port Harcourt	1,900

Some may have difficulty attaining their goals, but Kano, with its head start, is likely to exceed its target. The NUC estimates that by 1980, total university enrollment will be 55,000, of whom 44,000 will be in the three-year first-degree programs. The balance will consist of pre-university students in some type of readiness preparation, diploma and sub-degree diploma students, and postgraduates. A plan for 5,000 postgraduates is also included. Construction of 75 percent on-campus accommodation is contemplated.

The need for basic faculties in the new universities is undergoing further scrutiny and NUC working parties will make further recommendations on the professional fields. Meanwhile, it is planned that the new universities will have the following faculty configuration:

Education Humanities Medicine Natural Science Social Science and Business Studies	all universities
Agriculture	four universities (Calabar, Maiduguri, Port Harcourt, Sokoto)
Veterinary Medicine	two universities (Maiduguri, Sokoto)

Engineering	three universities (Ilorin, Kano, Port Harcourt)
Law	five universities (all except Ilorin, Port Harcourt)
Environmental Design (architecture, etc.)	Jos only

Given the dominant role of rural life in Nigeria, with its capacity for generating public policy pressures, and the fact that present policy rests on a judgment by the National Manpower Board (that existing agricultural facilities are underutilized), it appears likely that more faculties of agriculture will yet be established.

Not all "new" universities are literally beginning afresh. Calabar has been an outpost of the University of Nigeria (Nsukka) and the students in the pipeline will in fact be graduated from Nsukka in a special arrangement. Jos has been functioning as an extension of Ibadan. Kano is continuing several programs begun under the earlier relationship with Ahmadu Bello. Some temporary quarters have been inherited in many cases also: for example, Maiduguri operates in the facilities of the North East College of Arts and Science, Ilorin in the Kwara College of Technology, Port Harcourt in a secondary school, and Sokoto in secretariat buildings inherited from the state government.

All present sites are temporary, although some will expand into adjacent property. By NUC standard, all have permanent sites of huge size, approximately 10,000 acres. Ilorin will have 40,000. Student and staff accommodations are top priorities; and attractive, well planned buildings are rising everywhere, although the permanent physical plants yet depend on completion of plans through the NUC in Lagos. Attractive, functional campuses of the mini-city model can be expected at every site, generally also adjacent to a new teaching hospital.

All universities are generalized institutions; the specialized concept has been specifically rejected; however, the Government has asked all universities, old and new, to develop some specialized "Centre of Excellence." Also, talk of a major national University of Technology has long persisted. Such specialization will present extremely difficult problems for the NUC.

All universities are encouraged to have Organized Research Units (funded by NUC or otherwise apart from the regular university budget) which "should only grow out of a coordinated University research policy," but new universities are urged not to do so before 1980. All will have Computer Centres, beginning as a management tool and contemplated, perhaps overzealously, for library, research, and teaching uses. Departments of Library Science will begin in all new universities in the Faculties of Education, but will become separate Schools in the next National Development Plan.

Service to the community is not to be mere rhetoric, although faculty members continue to debate the mix required with teaching and research. The Academic Planning Group of the NUC candidly states that the founding of the universities was "in response to planned manpower requirements and to articulate geo-political demands." Therefore, teaching, research, and service are to respond to regional needs.

Pre-degree students will provide a dimension not familiar to American observers. They will be a significant fraction of the student population at the outset in the new universities, starting wherever they are above the "O"-level and pursuing preparatory programs lasting one or two years. "Medicine" will all be on a pre-medical, or preparatory, basis until 1980. Pre-degree students may well prove to be the safety valve in meeting projected enrollments, or at least in keeping the number of spaces filled. Overall, the relation of the pre-university part of the nation's educational system

to the university is so important that it is given special attention in Appendix B, "Secondary Education and University Admissions."

To achieve all this, what are the staff requirements and the expectations of help in the United States? Precision is impossible, but the NUC has made estimates which serve as a guide. The NUC Academic Planning Group says "3,000 additional teachers will need to be fed into the system by 1980" for academic purpose alone, and "the vast majority will be expatriates." The Staff Scouting Team which visited North America in 1976 said 2,500 would be needed, with just over 1,500 to "come from outside Nigeria in the form of external recruitment and academic reclamation." Technical, planning, and administrative staff will also be needed, but "far fewer." The NUC's table of recruitment requirements (Appendix C) shows a 1980-81 teacher increase over 1975-76 of 669 in all aspects of Medicine, 350 in the Sciences, and 200 in Engineering.

The NUC also hopes to foster U.S.-Nigerian interuniversity linkages as a staff-recruitment facilitator and as a material help in the education of Nigerian staff who seek overseas degrees.

The appeal for help from the United States has several bases: exaggerated notions of ease of recruitment in a glutted market, good historical relations, common use of English, admiration of the land-grant service concept, the appeal of management efficiency and technological prowess, and desired access to such curricular strengths as Business Administration, Library Science, Agriculture, and Engineering. U.S. universities are also characterized by such a tremendous variety in type, size, interest, ethnic composition, and specialization that they can provide almost any resource or match desired.

On the other hand, the Nigerian scene presents many features which should elicit favorable response from U.S. universities. Not least of these is a cadre of extremely able and educated Nigerian academic and governmental leaders who would become working colleagues. Also, Nigeria, unlike many other developing countries, exhibits no lethargy and stasis; on the contrary, it is a vibrantly growing--sometimes chaotically exploding--country with evident developmental potential and attractive, hospitable people.

CHAPTER III

ISSUES IN NIGERIAN-U.S. COOPERATION

Machinery for Cooperation

American-Nigerian university relations lack machinery for match-making and for cooperation. There is no close U.S. counterpart of the Inter-University Council (IUC) in Britain. That is because there is no tradition of Empire; the American university "system" is so numerous and diverse as to defy foreign comprehension; and the rampant pluralism, even when run through national organizations, is still so disparate that interuniversity relations are not harnessable. All efforts to cope with this problem in the past have met failure.

On the Nigerian side, a new NUC offers focused access to Nigerian universities, which could be crucial. It has powers, financial and otherwise, for "pulling things together," despite vigorous ongoing debate about the proper and optimal division of labor between NUC and the autonomy-conscious universities. That relationship is precisely what anyone would find in the American counterpart, or any other--a healthy, self-balancing tension; but Nigeria does now have a new mode of coordination and accommodation in its university relations, both internally and externally.

How to put the American side and the Nigerian side together, given the NUC requests for significant help, is the crux of the matter. Some new machinery seems required, not just to recruit (if indeed to recruit at all) but to make sense out of the chaos, atomism, and entrepreneurial drives which otherwise prevail. Until the current study of International Linkages in Higher Education, chaired by Dr. Fred Harrington, produces a national vehicle, if it does, the arguments seem overwhelming that (a) better use should be

made of existing organizations and procedures and (b) vigorous facilitation on the American side should parallel the responsibility on the Nigerian side. Therefore, the new machinery would be facilitative, not operational on the IUC model. It would perform a bridging function, speed access to American higher education, guide Nigerian representatives in this country, and serve in a host of intermediating roles. The shunning of bright new machinery with a full-responsibility mandate is based on a conviction that it simply could not "deliver," in the present American nature of things.

Funding

The old ways of funding interuniversity relations are dead or dying. U.S. bilateral concessional aid to Nigeria is to come to an end on June 30, 1977. Relations funded under technical assistance contracts cannot be relied upon, as in the past; and universities have never been able to use regular budgets (or the public ones to use publicly appropriated funds) for such purposes. Marginal costs have come from government contracts or foundation grants. The end of the "aid mentality" is welcome on both sides, but it creates a need for new funding strategies and an awareness that despite admitted American university benefits and the continued university willingness to share the costs of joint interest, the "balance of payments" will call for Nigerian funding of an unprecedented order. Replacement of what was formerly supplied by the U.S. Government will now have to come from sources external to the cooperating universities.

The visiting team was told by NUC officials not to concern itself with the funding problem--a welcome instruction; however, some new solution is a condition precedent to successful American-Nigerian university relations. American university representatives wish it were otherwise, but they are

confronted with two intractable constraints: governmental decisions beyond their control and internal financing stringency rarely appreciated abroad. Indirect costs of cooperation can still be borne, but the direct costs, both capital and recurrent, will have to be Nigeria's responsibility, as seems to be fully understood.

However, there is the other side of the equation. The spirit of academic partnership still prevails. Nigeria's oil-generated capacity to purchase goods and services in the American education market is not likely to blind the American university to its self-interest in access to another world and in a partnership which is active rather than reactive. The American part of the equation is worthy of external support, including new funding forms from the U.S. Government, particularly if the alternative is the collapse of the whole delicate network of relationships. Therefore, appropriate new kinds of support, both by government and by foundations, should be exhaustively explored. The search should cover three governmental sources: (1) Section 211(d) for American use on research in or related to Nigeria; (2) latitude under regional technical assistance funding; and (3) special project support via such mechanisms as expanded authority under Section 661 (or a new authority) which would enable the U.S. Government to make a financial commitment to the attainment of mutual U.S.-Nigerian higher education goals. Under an expanded authority, the U.S. Government might contribute to the support costs of such services as the proposed OLC Liaison Office or might even consider establishing a special U.S.-Nigerian awards program, patterned after the Fulbright-Hays mechanism and supported by the Bureau of Education and Cultural Affairs of the Department of State.

The Total Challenge and the U.S. Part

In trying to determine what part of the total Nigerian needs U.S. universities should address themselves to, other alternatives must be considered. Universities in all other countries are potential collaborators, although use of the English language provides practical limitations. India is, therefore, the chief non-European source, while the otherwise-logical Arab and Moslem worlds, are handicapped. Traditional British sources are still most attractive, chiefly through the IUC, although external funding now begins to parallel that described above for American relations. In staff recruitment, IUC will attempt to help locate only 250 to 300 of the new staff Nigeria is requesting overseas, even with special Nigerian funding.

Fortunately, close examination leads to the conclusion that American response can be helpful on a good deal more relaxed basis than the original Nigerian request contemplated. A "crash" program would not succeed anyway. While the objectives of the new Nigerian university plans are admirable and the goals will undoubtedly be ultimately attained, the timetable is bound to be altered. More than the realizable is now mapped out, particularly in the light of building delays, staff shortfalls, admission inadequacies, and inherent big-scale management difficulties both in Lagos and on campus. Plans in Medicine illustrate the point and may prove to be the hardest to attain, despite the obviously insatiable demand. The Government is moving faster than the academics can cope. The NUC Academic Planning Group complained that it "had to contend with fait accompli, like the decision by the Government that each of the new Universities shall have a College of Medicine." The suggested alternative of large increases in the capacity of the existing medical schools was governmentally overridden. It will now take a super-human effort to maintain what is begun, to staff seven fledgling

faculties with the hardest-of-all-to-get personnel in the basic medical sciences, to harmonize university interest and Ministry of Health operation of the teaching hospitals and to "put it all together" for full-scale education of medical practitioners by 1980.

Universities admit that they may have to shift their start-ups and phase-ins for some other faculties as well. Nigerians are, above all, pragmatists. They are likely to adhere to their goals rather than their timetable. American collaborators will be comfortable with that philosophy. Amid all this extraordinary growth, determination to avoid lower standards is on everyone's lips (most of all in the older universities, of course). That in itself is a safeguard. Nevertheless, the impression is abroad that education is so highly prized and local needs are so keenly felt that whatever university places are built, they will be filled--either by fully qualified university-level students or by the needed number of preparatory ones. The outsider need have no reason to find fault with this fact.

Obstacles

Some potential negatives must be candidly recognized. Where recruitment is involved, care will be required to attract only those Americans who can work effectively in the Nigerian setting. Even so, they should not be recruited in sufficient number to produce high visibility, with its dangers of foreign enclaves, faculty blocs, and scapegoating in time of world tension. Also, Americans and Nigerians, especially those trained in Britain and Europe, often do not see eye-to-eye in educational philosphy and academic systems. The American will have to be prepared to learn, in some circles, that only a few of his or her universities are well enough known to be regarded as over the threshold of capability to help Nigerians. Obversely, Nigerian academics will have to appreciate that no amount of explanation or

prestige or entreaty will get Nigerian faculty members into U.S. graduate schools except on the basis of meticulous individual evaluation. Other similar mutual misunderstandings provide ready grist for the mills of inter-institutional linkages, when they come into being.

Whatever machinery for cooperation is chosen, administrative obstacles can and will arise, on both sides. Styles and practices will differ, but continuity of planning and effectiveness of operation call for all parties to avoid cumbersome procedures, slow payment of obligations, faulty communications, and bureaucratic indecision. This stricture applies to the universities at both ends and to both the Lagos and Washington offices. Delays in processing can be disastrous in recruiting personnel, particularly those who have alternative offers and family options--as the best prospects do.

Another obstacle is the provision of "quality control" for personnel recruited in the United States. In the open market, outside the channels of linkages, there is no place for responsibility to be assumed: the recruiting Nigerians are left with "Let the buyer beware" and with their skill in interpreting dossiers and personalities.

Likewise, on the American side, caveat emptor prevails also because recruits have none of the usual home-base protections of contractual certainties, tenure and pension rights, accepted amenities, and known environment. Dwelling on the worst that could occur is futile both at home and abroad, but its materialization abroad is a quantum difference.

Process vs. Precision

As in estimating staff assistance, precise numbers are not available for precise decision-making. It seems advantageous for both Nigerians and Americans to rely on process rather than precision--on some orderly

machinery and procedures, some recognized channels, letting the numbers remain conscious targets to be approximated as closely as the working of the process will permit.

These issues, as discussed in this chapter, have their positive and negative aspects, which the team's recommendations have attempted to take fully into account.

CHAPTER IV

STAFF RECRUITMENT IN THE UNITED STATES

"Staffing will be the most serious problem the new universities will face," writes the Academic Planning Group of NUC, "yet it will be the most critical." Also, in the early years, "Expatriates will account for the majority of Professors, while Nigerians constitute the majority of the lower ranks."

Certain principles seem desirable in this relationship. Expatriates should be a last resort, filling in where qualified Nigerians are unavailable. They should be a temporary phenomenon, to be replaced as soon as Nigerians can be trained. In certain disciplines, expatriates should be rarely or never hired: the indigenous languages and the politically sensitive areas, such as the social sciences. Fortunately for the purposes of this report, the team was asked to address itself chiefly to the scientific and professional fields, where culture-bound considerations are less crucial. U.S. recruitment should be on the basis of "full disclosure" of conditions of life and work, good and bad. American university employment sources will be particularly useful in "typically American" fields, such as home economics, extension and continuing education, visual aids, computer science, and technological fields. Such sources will be difficult to tap for senior personnel, laboratory-dependent scientists, health professionals who have private-practice alternatives, and mid-career specialists who have maximum home-life and academic-life hazards.

Also, the need for U.S. assistance has to be put against other alternatives for the Nigerians:

1. "Academic reclamation" of Nigerians pursuing degrees or post-degree careers abroad.
2. Overseas sources other than the United States.
3. Secondment from government, industry and the older Nigerian universities.
4. Policy changes which would lower the targets, such as
   a. Selective prolongation of development cycles in the new university faculties
   b. Increase in faculty-student ratio in appropriate fields (ratios of 1:7 are average and 1:10 seems to be the planned maximum years hence).

Even when these options are exploited as the Nigerians choose, expectations of the United States will be great, and undoubtedly beyond easy realization. Among the American sources which the Nigerians are considering are:

1. Marketable young Ph.D. holders
2. Retirees or seekers of last-assignment opportunities
3. Sabbatical and other leave-holders
4. Short-term consultancy types
5. Competitors in a tailor-made extension of Fulbright-type awards.

To be realistic, all parties should understand the magnitude of the contemplated relationship. Comparison with the present dependency on expatriates is one criterion. What is sought in the United States is almost double the current accumulated expatriate population in the Nigerian universities. (See Appendix D.) Such recruitment would worsen the present proportions, which range from 10 percent expatriate at Lagos to 50 percent at Ahmadu Bello. For the older universities generally, the fraction is a quarter. Another comparison is with previous American experience wherein most AID-contracted

university relationships yielded no more than 12 to 15 American faculty members in the overseas university at any one time. On the other hand, a favorite Nigerian reply is that one recruit from every four-year degree-granting university in America would exceed the objective!

Candor is required on who ought to seek or accept employment in Nigeria. Not all persons will adjust adequately. Vice-Chancellors fully agree and themselves provided graphic descriptions of what they want, such as "a pioneer type," "somebody who wants to get out and do something," "an adventurous spirit," and "one who wants a challenge." Fastidious types would suffer. "Flexibility" may be the best qualification of all.

An understanding of the Nigerian context will be indispensable among all recruits. Merely emphasizing the negative also misses the point. In fact, great opportunities for personal satisfaction and professional development exist. Among them are (a) involvement in Nigeria's development both by instruction of eager students destined for significant careers and by planning and engaging in research beyond reach in the United States, (b) direct service in a responsive environment of need, and (c) participation in cementing interuniversity relations with continuing professional and personal rewards. There is another return flow, or reciprocal benefit, also: acquiring insight useful in academic life when resumed at home; understanding of cultures and peoples in a foreign setting; testing of one's self as a minority member of society; and obtaining new and more objective perspectives on what is taken for granted at home. In other words, Nigerian universities could provide a positively exhilarating experience for the right type of recruit.

On the other hand, the new recruit will need adequate understanding of what to take to Nigeria and what to expect in living conditions, local

customs, and climate; schooling for children; activities for spouses and children; Nigerian protocol respecting university and personal life; unfamiliar methods of teaching and evaluating students (the British model chiefly); and the restraint on expression expected of or properly befitting transients in a foreign culture and government. The American recruit will need to expect time-consuming procedures; periodic shortages of amenities and outages of utilities; communications and transportation problems; unfamiliar illnesses; and other challenges to the familiar existence and expectations at home. However, the purpose here is not to itemize what needs to be understood--which will be perceived differently by different people anyway--but to emphasize that it behooves Nigerians and Americans to understand each other and the conditions of employment.

In recruitment relations, American universities and their spokesmen must take a dim view of mere employment-agency relationships. These are one-way, without reciprocity of any kind. Therefore, the OLC/ACE must give its lowest priority to this kind of relationship except as it can be fitted into a broader package, such as linkages or collaboration for Nigerian faculty development. Similarly, OLC/ACE cannot assume <u>responsibility</u> for it--the open market approach makes that impossible by definition. That responsibility has to be assumed by the "buyer" in the market, Nigeria. All OLC/ACE can do is advise and <u>facilitate</u>, and that should indeed be done, one way or another.

Collaborators have several major options in tackling the problem of assistance machinery. They could make use of existing agencies, as now functioning, such as the African-American Institute, the Institute of International Education, the Council on the International Exchange of Scholars, the Council of Graduate Schools, the national higher education associations,

and others. They could create an appropriate new agency--governmental or private. Or they could resort to some combination of existing organization with new or expanded function, as through OLC/ACE itself.

Since no machinery can gather up all American relations, nor should it, use of existing agencies should be maximized by both the United States and Nigerian sides. Several are already committed to working with Africa. Beyond that, it seems clear that since no new agency is in the making, nor can be, until the Harrington study of linkages is completed and acted upon, some further OLC participation is logical and justified. It would also be consonant with the historical OLC mission vis-à-vis Africa and would capitalize on ACE's roots in American higher education.

That option is made easier by the knowledge that the NUC is planning to open a recruitment office in Washington, thus implicitly taking the required responsibility and leaving facilitation as the understood role for OLC. Nigerian university Deans, Vice-Chancellors, and Council Chairmen are coming to the United States for help; but they are at present destined to a scatter-gun approach, an exploitation of chance acquaintanceships, and wasteful duplication. From the U.S. side, meaningful participation calls for information clarification, orderly processes, operational manageability, and policy coordination which the NUC and the Nigerian universities can agree upon and carry out. Therefore, OLC and NUC have an opportunity to pull together the disparate threads on the U.S. and Nigerian sides for at least improved communication--for making some order out of the atomistic alternative. No monopoly is intended nor possible. Universities and organizations on both sides may use their enterprising talents as they wish, but it is hoped that a channel of the kind contemplated would attract, by its own

facilitative capacity, many of the relationships which would otherwise fly off in all directions.

OLC is not prepared either in staff or budget to undertake this task at present. Outside funds would be required. They might come from philanthropy, government, or Nigeria's NUC. Should OLC assume any interim responsibility until the NUC office is established, perhaps as late as October, that role should be clearly seen as makeshift, eagerly awaiting Nigeria's assumption of full-fledged responsibility.

Minimally, OLC should assign one staff member to the task, with office and secretarial help. This Liaison Officer for Nigeria, under the Director of OLC, should work with an NUC counterpart to facilitate relations with U.S. universities, to utilize professional communications media, to create an effective recruitment process, to identify recruitment interview panels, to harness the cooperation of the associations in the ACE, and to find other modes of access to the American academic community.

A major task of the NUC/OLC collaboration would be to work out and present to the American academic community the necessary conditions for U.S. employment by the Nigerian universities, including (a) the details of conditions of service and available amenities, as prepared by NUC for widespread distribution; (b) the research opportunities in special fields and other supplemental activities besides teaching; (c) the solicitation of the cooperation of Offices of International Programs, or equivalent, in U.S. institutions and associations; and (d) the use of academic personnel experienced in Nigeria as recruitment aides. The presentation of the "whole picture," using literature, returnees, and speedy question-answering, will contribute greatly to success. So will an identification of the out-of-classroom

challenges and the sympathetic help of university officers who make international programs their special business.

There are several kinds and levels of personnel sought. They will require different treatment. The open market--going broadside into whatever of American academe can be reached--will be the chief, but not sole, source of supply for lower-level teaching personnel. (Where linkages are formed, the American link can of course help.) That means instructors and assistant professors, or the various grades of lecturers in Nigerian terms. This is where the need to structure the potential relationships successfully will put the NUC/OLC to the severest test.

Although no sharp distinctions are possible between levels or between methods, something on a more controlled or focused basis will generally be required for the attraction of senior-level personnel, such as those expected to bring leadership in program development. One avenue is the linkage arrangement and its "inside" advantages, as explained later. Another avenue is the use of professional associations in the United States, most of which are readily accessible in Washington. This is not their present mission, but they might be appealed to for specialized help targeted to the profession in question. Still another possibility at the management and planning levels is the organization of means to tap retired personnel. Something like the business-oriented International Executive Service Corps ought to be considered.

A new scheme is also proposed: the creation and use of special awards which would, like the Fulbright awards, carry the honor of nationwide competitive selection, foster career advancement among senior academics, and be tenable for a year on a renewable basis. Given some such name as "Nigerian Senior Fellows," they could offer the NUC and Nigerian universities

some of the best American talent. Other advantages would be the spelling out of needs by the NUC, and Nigerian participation in selection as desired. Some collaboration with the Council on the International Exchange of Scholars (the Fulbright-Hays administrators) might also be possible and should be explored, both for the administration of this plan and for better access to talent identified by CIES. To give an opportunity for each new university (or perhaps both old and new) to have several such senior scholars, 25 awards might be offered the first year, to be followed by a number set annually by the NUC according to assessed need. Some such attractive and selective device, contrasting with the open market, will be required if the desired senior types are to be recruited--and a few in key Nigerian places would soon repay all the collaborative efforts.

The successful recruitment of health professionals seems to call for special attention. Staffing seven new medical faculties simultaneously will be a monumental task. While recruitment might begin under the procedures contemplated above, longer-term arrangements will be needed if the targets, with quality, are to be approximated. By common agreement, the pre-clinical fields or the basic medical sciences present the greatest difficulty. Scientists in general are hard to interest in such overseas needs, and scientists oriented toward medicine will be the most resistant of all. To the layman's surprise, the consensus is that finding Nigerians for the clinical posts is far easier than for the basic medical sciences. Therefore, given the number sought, the close relation with clinical personnel, and the varied sources of possible help, it clearly seems wise to invoke a longer-term solution. A special working party under the aegis of NUC could help if it were to bring together appropriate American and Nigerian

professionals who would make selective site visits and address the problem jointly.* Included in the American representation ought to be university officers who know and have jurisdiction over personnel who teach the basic medical sciences, such as Vice-Presidents for Health Affairs, Deans of Schools of Basic Medical Sciences, or Graduate Deans in university medical centers where advanced study is offered in pre-clinical disciplines. Representation from appropriate national professional associations should also be considered, with a view to harnessing their assistance. The terms of reference of the working group should be the further identification of general and specific needs and the recommendation of a suitable U.S.-Nigerian plan for successfully tapping American sources of assistance. It is assumed that the plan would be compatible with, rather than independent of, the recommendation made above for collaborative NUC/OLC action in Washington. (Further analysis appears in Appendix E, "Development of Medical Education.")

Recruitment of short-term personnel--outstanding people for short periods--also requires special attention. It will present fewer problems, and many excellent U.S. academics would be interested. Assignments can be reconciled with university consultancy policies, or vacation periods can be used so that the pay status can remain uninterrupted, with advantages both to the visitor and to the Nigerian host. This is also a technique with special application to the problems in non-academic areas--positions in the registry, libraries, laboratories, etc.--where the recruitment is not for service but for advice, not for formal instruction but for informal

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*This position runs counter to the team's original resolve to avoid follow-up teams, lest they postpone rather than hasten action; but the exception seems justified in this sharply specific but complicated case.

consultation. (Relevance for staff development is treated in the next chapter.) Therefore, the collaborators should provide a mutually agreeable method of funding short-term projects using U.S. personnel, both academic and non-academic and both in the United States and Nigeria, for specialized services. These projects might include leadership of groups with similar functions, help with management problems, and in-service education in the visitor's field.

A mode of stimulating and facilitating such short-term exchanges will pay rich dividends. They will work more easily than other recruitment; they can perform invaluable service without the mutual hazards of longer or semi-permanent relations; and they will be excellent vehicles for stimulating more enduring linkages.

Finally, as stated earlier, an indispensable ingredient for successful recruitment will be a recognized way of topping-up salaries to assure equity of compensation where Nigerian rates and other allowances will not suffice. Nigerian salaries, augmented by a permissible bonus (being currently debated between 10 percent and 25 percent), are surprisingly competitive in the world academic market, but they will still fall short in critical fields at the higher levels. (See tables below.) Supplemental payment external to the employing university, and from equally independent funding, has immense practical and psychological advantages within the university community. If foreign exchange difficulties can be surmounted, it would also be desirable to explore ways of paying some U.S. senior personnel <u>through</u> their universities, with no change in payroll, retirement, and fringe benefits. This would be particularly helpful for a kind of secondment arrangement, or leave with full return rights; and it would facilitate the kind of exchanges which interinstitutional linkages are likely to generate.

Nigerian Salaries ₦ = $1.60

Professor	Grade Level 10	₦ 11,268 - 12,420
Reader	Grade Level 14	₦ 8,864 - 9,828
Senior Lecturer	Grade Level 13	₦ 7,764 - 7,824
Lecturer I	Grade Level 11	₦ 6,444 - 6,984
Lecturer II	Grade Level 10	₦ 5,460 - 6,432

Examples of U.S. Salary Averages (in U.S. dollars)
(in Universities Represented by the Five Team Members)

	Professor	Associate	Assistant	Instructor
University A	$28,900	$20,600	$17,100	$12,700
University B	23,300	17,600	14,800	12,500
University C	25,100	19,500	16,200	12,500
University D	28,600	20,500	17,000	13,400
University E	28,600	21,000	18,300	14,400

Source: AAUP Bulletin, Vol. 62, No. 2, August 1976.

In neither case have fringe benefits been added. For the U.S. examples the addition would range from 6 percent to 21 percent.

In summary, these recommendations appear to the team to be the best way for American universities, through some effective means of representation, to respond to Nigeria's request. The response has two necessary bases: the intermediation of some competent representative body to channel the otherwise scattered efforts, and the willingness and readiness of individual American universities to participate. For recruitment purposes, the subject of this chapter, the first requirement needs emphasis. The second will be more important for the purposes of the two remaining chapters, but it would also be a much desired alternative to the open market even for recruitment, if effective motivation could be found. Assuming that motivation would be

difficult to find except in some package of broader relationships, the team here emphasizes with some trepidation what it sees as the best means of doing what has not been done successfully and systematically before (helping foreign universities recruit in the United States). The essential ingredients are the assumption of a facilitative rather than a direct-responsibility role; some organizational structure which has recognized access and agency relationship to American higher education; clear and unencumbered procedures; and a mode of independent financial support. The question remains: Why this in the case of Nigeria? Would it be done in other cases? The answer has to be yes, provided the same conditions prevail. Nigeria is making the conditions unusual, and therein lies the key to whatever success the future holds.

CHAPTER V

NIGERIAN STAFF DEVELOPMENT

In asking for U.S. help, the NUC seeks two kinds of staffing assistance: short-term open-market search for Americans and long-term staff development for Nigerians. The first may take place outside American universities and, in any case, often has little or no feedback for them. Therefore, U.S. universities are bound to be less interested in the first request and more in the second, where significant two-way relationships can exist. This is a fact of academic life which both the NUC and OLC/ACE must recognize as they work together.

Helping Nigerian university staff development plans takes high priority for several reasons. For one, it minimizes reliance on expatriates. It is a countervailing, long-term force which becomes the wedge by which short-term non-permanent recruits are systematically replaced. That in and of itself is sufficient justification for U.S. assistance. Also, cooperation at this point makes demands on U.S. universities where it is welcome--where there is a clear mutuality of interests. Professors like to replicate their kind: they will welcome bright young Nigerian staff into their classes and laboratories. There is also contagious professorial interest in helping build other universities abroad, particularly through the most crucial element of all: promising, likeminded scholars. Finally, relationships of this kind obviously hold the seed of interchanges, personal as well as intellectual, which may in turn be the beginning of ongoing linkages. In any case, high priority is given this mode of cooperation because it so well fits and supplements the third type which NUC seeks: interinstitutional linkages.

The thoughtful attention which both NUC and the Nigerian universities have given staff development plans is impressive. Understood practices and policies exist, an urgent need is discerned, and something is being done about it. Some universities have published handbooks spelling out the plan and the policy, as both a recruitment attraction and as a faculty-shared concern. But common practices prevail whether handbooks exist or not. Departments which are considered "ready," employ promising graduate assistants as potential teachers. They are in a real sense "stockpiled" and declared "faculty-in-the-making." After spending a year of tutelage and perhaps supervised research, the chosen are hived off to overseas (or Nigerian) universities for study leading to advanced degrees. The sponsoring department and the assistant agree upon an appropriate program of study; he/she continues on university salary with allowances; he/she is bonded to return; and he/she may not change the program without approval or forfeiture of benefits.

This heavy subsidization of staff development, of upgrading efforts and of striving for academic self-sufficiency, comes as a stunning revelation to observing Americans. For example, the University of Nigeria, Nsukka, reported that it has approximately 200 staff members on study leave now. Figures from the NUC for 1975-76 show 185 from Zaria and 167 from Lagos. Although it is the oldest and presumably best established, Ibadan had 101. Of the 477 graduate assistants reported in 1975-76, slightly less than half were in Nigerian universities, with 244 abroad. (See Appendix F.) This almost 50-50 division is misleading, however, because those abroad were generally more advanced and working for the top degrees. In any case, it is clear from other sources that Nigerians, both students and their university mentors, still prefer to combine overseas experience with their studies.

This produces a dilemma for emerging graduate programs in Nigeria--how to produce strong graduate programs while sending the brightest students abroad.

In this area of high mutuality of interest, where American professors would be teaching professors-to-be rather than ordinary students, U.S. help through universities should be enthusiastic. The team would like to see OLC/ACE vigorously pursue its liaison role (through the organization described above for recruitment) to see that Nigeria's needs for access and cooperation are somehow met: through experienced agencies such as the African-American Institute, interested graduate schools, and all other appropriate contributory organizations. However, the team also recognizes that the OLC/ACE, being reluctant and ill-staffed for major new operational responsibility, will have to choose its modes of effective cooperation on behalf of Nigeria. Working together, the NUC and Nigerian universities should present staff development plans in sufficient detail for American collaborators to respond with maximum facilitative assistance. This will doubtless involve identification of individuals, their approved programs of study, and information on where they have applied or wish to apply for American graduate school admission; but whatever is needed, the collaborators can best be left to provide working details.

One limitation must be understood: no intermediation of any kind can change the American university practice of admitting graduate students, domestic and foreign, on the basis of individual evaluation, departmental interest and judgment, and the availability of spaces. Nigerian university officials may not sufficiently understand that no admissions by block are possible and that the standing of no university as a university is sufficient to guarantee automatic admission of its graduates. This is not to.

deny that better understanding can weigh significantly in many areas of discretion, particularly in cases above the admissions threshold. At such points, OLC/ACE might be of some assistance both in general and in individual cases. In no case, however, could OLC or any other body external to the university assume responsibility for the admission of applying Nigerians. (Getting a kind of "inside track" by virtue of mutual confidence and understanding is possible through interinstitutional linkages, however, as explained below.)

Many other forms of Nigerian staff development can and should be aided. These may go beyond the teaching staff, may involve other-than-degree programs, and may operate at either end of the geographical axis. Response should be forthcoming when requested through the NUC. One type of response would be the identification of appropriate professionals or teams of professionals who can direct or participate in in-service education, such as in computer training or refresher programs for pre-clinical medical personnel. Another response would give special attention to the needs of support personnel, both academic and administrative, such as registrars, librarians, planning officers, bursars, directors of works, and technicians. Instructional or consultative service for such groups, either in Nigeria or the United States, would pay rich dividends in many cases. It is workable from both sides; therefore, contrary to the common disparity between theory and practice in interinstitutional relationships, the practice here can conform to the theory. Significant interaction in selective places and positions can produce rippling or multiplier effects. It can also give Nigerian non-academic staff a needed feeling of equality in staff development plans. Such an impact is of crucial importance in both the old and new universities, where management skill at the second level is often incommensurate

with its challenges. As the NUC Academic Planning Group wrote, "University Administration is a profession in its own right."

The use of Nigeria's own universities--that is, the post-graduate capacity of the older universities--as an in-country resource for staff development seems to arouse little interest at present among Nigerian academics. They see it as a small supplement now and a burgeoning aid in the distant future, but dependence on overseas universities is accepted for the present. Nevertheless, development of post-graduate education in all new universities, with separately organized graduate schools in some (called "geographical" graduate schools) is inevitable. The question is pace and the degree of differential development. Whatever is ahead, if the universities want U.S. assistance, and NUC requests it, it should be given, to provide an in-country resource for Nigeria's development of its own faculties. The pace is for Nigeria to say but when it is said, OLC/ACE should use its good offices to be of assistance both directly and through others. When that time comes, American aid and influence can make its greatest impact--through the generation of Nigeria's own capacity to reproduce its own scholars on its own soil. Until then, selective help in selective places should be encouraged.

This report has previously commented on the need to use existing agencies. One such is the African-American Institute and its AFGRAD program partially funded by the U.S. Agency for International Development. AFGRAD is well known and prized by Nigerian universities, but it is only a small supplement. In view of the established relations AAI possesses in the U.S. universities and its demonstrated managerial capacity, great gain could come from an expanded effort of the AFGRAD type. That possibility should be vigorously explored among all interested parties. A new possibility for expansion lies in Nigerian payment in lieu of tuition remission from the

American university, as AAI currently requires. A more flexible plan that would serve many more young Nigerian university staff would have the immense advantage of capitalizing on a tested mechanism which enjoys the confidence of both sides, American and Nigerian.

When interuniversity linkages are forged, as contemplated in the next chapter, the U.S. cooperators will need to give attention to other aspects of Nigerian staff development. They should seek to build tailor-made programs--both for instruction and thesis research--which will be of maximum relevance for Nigerian faculty-to-be. Absence of such attention is a universal fear, and often complaint, among Nigerian university officials. Similarly, attention should be given useful ways of interlacing Nigerian and American residence and research so as to produce maximum Nigerian usefulness and maximum likelihood that professor and student (and their institutions) will have continuing professional relationships.

In summary, when Nigerian universities and NUC seek American assistance with staff development plans, they are seeking means of self-help--help through a critical developmental phase. American response can be mutually advantageous because of the leadership-training focus of its graduate schools, the appeal of learning by mind-on-mind when cultures are mixed, and the ease of doing it at home by largely familiar methods. This is where academic enrichment is possible among all parties.

CHAPTER VI

INTERUNIVERSITY LINKAGES

What are the advantages of the interuniversity linkages which this report has so often advocated by implication? They are a convenient vehicle for whatever is mutually agreed upon, including access to new opportunities for students and staff. They can produce exchanges of all kinds, both human and material; joint research: development assistance; sites for sabbatical leaves; student access to graduate training; staff access to a new professional world; and much else. If ideal relationships were to be established, some of the characteristics and benefits would be agreement on the role of education in societal development; aid on the issues of size and critical mass; tolerance of diversity in educational methods; and sharpened capability for preparation of counterpart staff. Others would be incorporation of linkage experience into institutional personnel practices; acceptance of the risks of linkage-induced changes in educational practice; acceptance of the neutrality of expatriates on national political issues; and a division of the financial burdens.

The greatest advantage of all in the Nigerian-American relationships here contemplated would be the use of established structures in formally agreed ways, with their officers, their experience, their connections, their understanding, and, above all, their commitment. Within such structures, every experience goes into a memory-bank, it has meaning for the future, it reinforces something, and an enduring, multiplying quality is ever-present. If Nigeria intended to shop perpetually in the American academic market, then this team had no reason to make its visit. Something better, and more orderly was clearly contemplated. The open market contributes little

except to the individual. It gives no commitment on anybody's part, builds on nothing, compounds no experience, and offers no feedback.

Therefore, the Nigerian universities cannot expect to tap the full capacity of the U.S. university resources without establishing some kind of formal interuniversity links. Institutional interest and commitment are needed in locating top-level staff and in effectively supervising the graduate education of young Nigerian faculty members (helping in admissions, in counseling, and in research guidance). Such links might be with individual universities, such as statewide systems or consortia already in being or groups brought together on an ad hoc basis. Given the existence of broad-based consortia, it would seem generally unproductive for the NUC to invite the creation of new groupings for its sole purpose. However, that eventuality should by no means be ruled out if parties on both sides are willing.

Many private universities, singly or in association, have great capacity for institutional assistance abroad, and they offer the sometimes added attraction of comparative insulation from officialdom and public policy. The clue for Nigeria's sake is not public or private, but capacity and willingness to deliver assistance services and to get into transnational harness for benefits perceived to be mutual.

Another linkage possibility exists in the great governance groupings of public universities which now characterize higher education in several states, such as Florida, Missouri, California, Wisconsin, North Carolina, Texas, New York, Illinois, and Oregon. Many of these bring together several full-fledged universities, with all of the faculties and graduate schools which Nigeria would need. Linkage might be made either into the system-wide office (here conceived as one of governance, not of coordination) or through a constituent university as agent for all. One example will suffice. Oregon

State University is exploring a linkage with the University of Benin. Leaving aside all other considerations not now known, it is theoretically clear that Oregon State University at Corvallis could become the only vehicle; or it could help Benin to plug into the larger state system for broader service--e.g., into the Medical School at Portland. Many of the statewide or multi-campus university systems could produce the same broadside of potential relationships through a linkage. The novelty of such a model has a potential which ought sometime to be tested.

If NUC, on behalf of Nigerian universities, decides to seek linkages, the OLC/ACE could and should use its staff (as described in Chapter III), its academic connections, and its knowledge to help match-making. Identifying interested and appropriate U.S. universities, with some sounding out and determination of preferences and readiness, would be required for both sides. Such a "broker" role can be played by OLC, recognizing that the task will be imprecise, with inherent hazards. Criticism will predictably focus on what will be regarded as invidious comparison, improper criteria, and neglect of certain categories of institutions. To minimize that criticism, OLC should not profess nor attempt too much--only an information-dispensing role, a magnet and clearinghouse for institutional expression of interest, and no capacity to consummate, as distinguished from facilitate, the match-making. A possible alternative would be the use of the U.S. Agency for International Development for screening through the official device of Request for Proposal.

If it is to help identify universities which are interested, the OLC will need to use many devices--some of which will be initiated by OLC appraisal and some of which will be institutionally self-identifying. For the latter purposes, the OLC might sponsor a nationwide meeting to which

university representatives would be invited to discuss this report and its recommendations. After such a meeting, expressions of institutional interest could be sought. While rigid categories will need to be avoided, it is fair to assume that major graduate-degree-granting universities will be particularly concerned because of the staff-development (graduate training) needs of Nigerians.

Among the linkage sources for the OLC to explore on the U.S. side are the existing consortia. Good examples are the Mid-America State Universities Association (Kansas, Kansas State, Nebraska, Colorado, Oklahoma State, Oklahoma, Missouri, and Iowa State), the Research Triangle (Duke, North Carolina, and North Carolina State), and, MUCIA, the Midwest Universities Consortium for International Activities (consisting of Wisconsin, Illinois, Iowa, Indiana, Ohio State, Minnesota, and Michigan State). Another group concentrates on dry-land agriculture and irrigation. Still other groups are newly emerging with an initial focus on Title XII of the Foreign Assistance Act. All these should be approached to learn of potential interest in linkages with Nigeria. This should include MUCIA, in the knowledge that the Nigerian Staff Scouting Team originally urged that group to send a team to Nigeria as a part of the requested U.S. response.

If linkages are forged, several desiderata should be kept in mind. Relationships should be broad enough and at a level high enough to produce a reinforcement of experience and to assure benefits outweighing the costs in time and money, which are considerable even if sometimes disguised. What this level should be--department, faculty (college), or whole institution--will be debated, but department heads and deans are incontestably crucial. The breadth and scope of cooperation would seem to be optimal at the faculty or dean's level. Even where particular departments carry the burden, the

dean can effectively shape staff attitudes and make the difference between willing cooperation and reluctance, and between sharing staff for overseas work and discouraging their participation.

Also, once a link is established, the parties should exploit that axis along the broadest possible interface. This could certainly include the encouragement of short-term and long-term personnel exchanges, as further spelled out above. The institutional commitment to do something, to feel and take some responsibility, will mean much to the Nigerian side. The reciprocal Nigerian attitude will similarly work to the advantage of the U.S. collaborators. One of the greatest benefits will be assistance in Nigerian staff development plans involving young faculty who seek graduate degrees in the United States. The American collaborator can facilitate placement in its own graduate school or, if more appropriate to the student's need, placement in other graduate schools. The analog here is the extensive and successful experience of U.S. universities under U.S. AID contracts which send "participant trainees" to the United States, either to the contracting institution or one it helps choose. Once the linked universities gain some joint experience, performance on both sides will be attuned to joint needs and in-country realities.

A pool of Nigeria-experienced faculty will soon develop on the U.S. side, with personal and professional interest in all things Nigerian, including particular Nigerians. The significance of this on-campus reservoir of knowledge, empathy, and commitment cannot be overestimated. It will carry over into admission of graduate students, choice of research projects, counseling for relevant programs, and a host of other mutually advantageous relations. Finally, steps will need to be taken to see that the twinning

arrangement has genuine durability, and a capacity for self-regeneration and for fostering other long-term interlocking interests.

A note of caution is needed to avoid misunderstanding: there is no intimation here that linkages ought to be exclusionary or monopolistic. They may be the core, or the channel for most of the relations, but should not try to encompass all. That would be good for neither the United States nor Nigeria.

To recapitulate, the major need in Nigerian-U.S. university relations is reduction to manageable order. The relevant and interested universities on the American side must bring themselves to focus. The Nigerian universities must have a channel of access. These recommendations are presented to that end.

APPENDIX A

PAST LINKS BETWEEN U.S. AND NIGERIAN HIGHER EDUCATION

APPENDIX A

PAST LINKS BETWEEN U.S. AND NIGERIAN HIGHER EDUCATION

Laurel Elmer
Research Assistant, OLC

This study was undertaken for the purpose of providing background information to the National Universities Commission of Nigeria (NUC) on the status of past university-to-university linkages in higher education between the United States and Nigeria.

Tables A(1) and A(2) give a brief summary of the nature of past U.S.-Nigerian university projects whose purposes embraced institution building and faculty recruitment of which participant and counterpart in-service training programs were an integral part. It is important to note that these specified linkages do not represent a comprehensive list of all past projects involving formal and non-formal university links. There were many programs in which U.S. faculty staff/technicians were engaged as consultants, advisors, or university staff. In some cases, they served in such roles more than once and over long periods of time, thereby establishing important continuing links between U.S. and Nigerian universities or other institutions.

Tables B(1-6) present statistical surveys of six AID-sponsored formal projects between U.S. and Nigerian universities. They reflect realistic estimates of the approximate costs per man-year involved both for training a Nigerian at a U.S. institution of higher education, i.e., Participant Training, and for recruiting a U.S. faculty member/technician on a long-term basis (two year) at a Nigerian university, i.e., Faculty Recruitment.

Participant training costs include tuition, fees, and books; use of university equipment (computers, etc.); travel within the United States

including to and from port of entry, but not including transportation costs from Nigeria); subsistence and other direct necessary costs. U.S. faculty costs in Nigeria cover salaries, allowance, travel and transportation, overhead, and other direct costs. For the purpose of this analysis, it is assumed that the estimated Faculty cost per man-year represents the entire on- and off-campus operation excluding participant training costs and equipment.

In each case, the information supplied was derived from diverse sources including AID Contracts; project records, i.e., annual, end-of-tour and final project reports, and other miscellaneous documents; or from university contacts who were administratively involved in the projects. Estimations for cost per man-year for both Participants and U.S. Faculty were calculated from an analysis of the itemized budget cited in the tables based on the number of respective man-years involved.

Because initial calculations of costs per man-year represent an arithmetic average over the project period in each case, a 9 percent rate of inflation was applied to the Faculty cost for correcting the averages to reflect end of project prices and to estimate a 1977 figure. The 9 percent increase in U.S. costs is considered conservative in terms of World Bank standards.

1977 projections for estimated Faculty cost per man-year from the six project samplings below range from $98,280 to $126,900, or an average estimate of $113,000 per man-year.

A(1) PAST LINKS BETWEEN U.S. AND NIGERIAN UNIVERSITIES

U.S. UNIVERSITY	NIGERIAN UNIVERSITY	SPONSOR	DATES OF AGREEMENT	OBJECTIVE	FIELD
Iowa State University	University of Nigeria	FORD	1963-1975	Faculty Development	Education
Johns Hopkins University	University of Lagos [Institute of Child Health]	AID	1973-1976	To improve & expand health education	Public/Family Health
" "	" "	FORD	1977 ---	" "	" "
Kansas State University of Agriculture & Applied Sciences	Ahmadu Bello University	AID	1963-1977	Faculty Development	Agriculture and Veterinary Medicine
Michigan State University	University of Nigeria	AID	1960-1969	University development: planning & staffing; development of Continuing Education Center	Various fields & Continuing Education
New York University	University of Lagos	AID	1963-1970	Faculty Development	Business Administration & Social Studies
Teachers College, Columbia University	University of Lagos [College of Education - became Faculty of Education in 1976]	AID	1971-1976	To mount two in-service programs: Professional Studies Program; Education Leaders Program	Education
University of California at Los Angeles	Federal Advanced Teacher Training College - merged with U. of Lagos' College of Education in 1967	AID	1961-1968	Development of teacher training college, department of education and college library	Education/Teacher Training
University of Massachusetts/ University of Connecticut	University of Ife [Institute of Administration]	AID	1971-1976	Training in project analysis to graduates and government in-service people	Public Administration
University of Pittsburgh	Ahmadu Bello University [Institute of Public Administration]	AID	1962-1973	To strengthen and expand Institute	Administration and Business Management
University of Wisconsin	University of Ife	AID	1964-1975	Faculty Development	Agriculture
" "	Ahmadu Bello University	FORD	1962-1968	Primary Teacher Training Program	Education/Teacher Training
Washington University	University of Ife	FORD	1970 ---	Yoruba Primary Curriculum Development	Education/Bilingual

A(2) PAST LINKS BETWEEN U.S. UNIVERSITIES AND OTHER NIGERIAN INSTITUTIONS

U.S. UNIVERSITY	NIGERIAN INSTITUTION	SPONSOR	DATES OF AGREEMENT	OBJECTIVE	FIELD
Ohio University	Olumlovo College of Education, Ibadan	AID	1958-1968	To help change West Nigerian Government approach to its educational needs	Education/Teacher Training
" "	Advanced Teachers College at Kano	AID	1963-1972	Institution Building improvement of teacher training instruction	Education/Teacher Training
Western Michigan University	Western Nigerian Government	AID	1960-1968	Development of Technical College at Ibadan	Civil, Mechanical & Electrical Engineering; town planning and commerce

B. SIX U.S. - NIGERIAN UNIVERSITY PROJECT SAMPLINGS

B[1] Kansas State University/Ahmadu Bello University

U.S. University (Department)	Nigerian University (Department)	Sponsor	Contract Dates	Funds
Kansas State University of Agriculture & Applied Sciences	Ahmadu Bello University [Faculty of Agriculture and Veterinary Medicine]	AID #830 #707	10/63-6/75 7/70-6/77 14 years	$6,840,888 5,058,000 $11,898,888

OBJECTIVE: To establish a Faculty of Agriculture, Division of Agriculture and Livestock Services Training (DALST), and an Extension Research Liaison Section; and to train Nigerians to assume major roles in agricultural institutions.

[#830 - initial project, emphasis on Faculty of Agriculture.
#707 - separate funds for the development of the Faculty of Veterinary Medicine (from DALST.)]

Participant Training			Faculty Recruitment			Average Overhead Rates	
U.S. Trained Nigerians		Est. Average Cost per man-year	U.S. Team in Nigeria(longterm)		Est. Cost per man-year[b]	On-Campus	Off-Campus
#	man-yrs		#	man-yrs			
79	158[a]	$6,196 [not including transportation]	78	185	1. $ 92,172 2. 95,474 3. 104,066 [not including equipment]	53%	24.7%

TOTAL BUDGET	Contract #830 10/63 - 6/75	Contract #707 7/70 - 6/76
Salaries	$2,717,231	$2,028,981
Allowance	889,228	558,939
Travel & Transportation	778,245	492,716
Other Direct Costs	424,102	381,671
Overhead	741,725	639,141
Equipment	793,665	44,024
Participant	625,947	353,011
	$6,970,143	$4,498,483

[a] Based on a two-year term.

[b] 1. Arithmetic average over project period based on analyzed budget.
2. Average corrected for inflation at 9% per year reflecting end of project prices.
3. Estimate for 1977.

[c] KSU's 1976-77 Calculations: $725 per man-month, or, $8,700 per man-year/Participant
$7,066 per man-month, or, $84,792 per man-year/Faculty

[KSU may be using a lower inflation rate; they claim to be the second most reasonable in terms of contract costs.]

B[2] University of Wisconsin/University of Ife

U.S. University (Department)	Nigerian University (Department)	Sponsor	Contract Dates	Funds
University of Wisconsin [College of Agriculture and Life Science]	University of Ife [Faculty of Agriculture]	AID/#262	FY64-FY75 10 years	$5,475,650

OBJECTIVE: To develop an Institute of Agriculture as a functional part of the University of Ife; to provide technical training for middle-level agricultural manpower and to carry out applied research needed to support agricultural development programs in the Western States, and Nigeria as a whole.

Participant Training			Faculty Recruitment			Average Overhead Rates	
U.S. Trained Nigerians		Est. Average Cost per man-year	U.S. Team in Nigeria(longterm)		Est. Cost per man-year[a]	On-Campus	Off-Campus
#	man-yrs		#	man-yrs			
38	109.5	$5,785 [not including transportation]	38	100.66	1. $50,901 2. 78,386 3. 93,240 [not including equipment]	53% [FY75: 59%]	34% [FY75: 38%]

TOTAL BUDGET	
Salaries	$2,173,145
Allowance	695,186
Travel & Transportation	486,371
Other Direct Costs	376,408
Overhead	761,150
Equipment	351,971
Participant	633,420
	$5,475,641

[a] 1. Arithmetic average over [illegible]eriod based on analyzed budget.
2. Average corrected for inflation at 9% per year reflecting end of project prices.
3. Estimate for 1977.

B[3] University of Pittsburgh/Ahmadu Bello University

U.S. University (Department)	Nigerian University (Department)	Sponsor	Contract Dates	Funds
University of Pittsburgh [Graduate School of Public & International Affairs]	Ahmadu Bello University [Institute of Public Administration]	AID/#284	5/62 - 6/73	$3,031,432
		[Ford]	11 years	[$112,000]

OBJECTIVE: To upgrade, strengthen and expand the Institute into a professional school in public service and the business management fields.

Participant Training			Faculty Recruitment			Average Overhead Rates	
U.S. Trained Nigerians		Est. Average Cost per man-year	U.S. Team in Nigeria (long-term)		Est. Cost per man-year [1]	On-Campus	Off-Campus
#	man-yrs		#	man-yrs			
23	46 [2]	$4,414 [not including transportation]	25	54	1. $ 50,640 2. 81,800 3. 115,500 [not including equipment]	55.3%	28.3%

TOTAL BUDGET	5/22/62 - 6/30/73
Salaries	$1,400,000
Allowance	293,200
Travel & Transportation	356,377
Other Direct Costs	254,611
Overhead	435,348
Equipment	93,894
Participant	203,050
	$3,031,432

[2] Based on a two-year term.

[1] 1. Arithmetic average over project period based on analyzed budget.
2. Average corrected for inflation at 9% per year reflecting end of project prices.
3. Estimate for 1977.

B[4] New York University/University of Lagos

U.S. University (Department)	Nigerian University (Department)	Sponsor	Contract Dates	Funds
New York University [School of Commerce; now School of Business & Public Administration]	University of Lagos [Faculty of Business & Social Studies]	AID/#296	2/63 - 11/70	$1,630,401
		[Ford]	[60 - 63]	[$80,000]
			7.5 years	

OBJECTIVE: To develop a School of Business Administration at the University of Lagos, to include social studies; NYU emphasis on staffing and participant training to enable Nigerians to assume complete administrative and academic responsibility for the School. In FY67-68, the Faculty of Business and Social Studies split into the School of Administration and the School of Social Studies with NYU assistance centering on the former.

Participant Training			Faculty Recruitment			Average Overhead Rates	
U.S. Trained Nigerians		Est. Average Cost per man-year	U.S. Team in Nigeria (long-term)		Est. Cost per man-year [1]	On-Campus	Off-Campus
#	man-yrs		#	man-yrs			
10	20 [2]	$4,716 [not including transportation]	14	31	1. $ 48,200 2. 65,033 3. 117,000 [not including equipment]	52%	25%

TOTAL BUDGET	2/15/63 - 11/30/70
Salaries	$ 771,321
Allowance	155,230
Travel & Transportation	166,120
Other Direct Costs	100,094
Overhead	231,412
Equipment	45,072
Participant	94,152
	$1,630,401

[2] Based on a two-year term.

[1] 1. Arithmetic average over project period based on analyzed budget.
2. Average corrected for inflation at 9% per year reflecting end of project prices.
3. Estimate for 1977.

B^5 Michigan State University/University of Nigeria

U.S. University (Department)	Nigerian University (Department)	Sponsor	Contract Dates	Funds
Michigan State University	University of Nigeria (Nsukka)	AID/#280	3/60 - 7/69 9 years	$8,456,190

OBJECTIVE: To relate the University's activities to the social and economic needs of Nigerian peoples; teaching of undergraduates and graduates; to engage in and encourage research on Nigerian problems; and to engage in public service through continuing education.

Participant Training			Faculty Recruitment			Average Overhead Rates	
U.S. Trained Nigerians		Est. Average Cost per man-year	U.S. Team in Nigeria(longterm)		Est. Cost per man-year [b]	On-Campus	Off-Campus
#	man-yrs		#	man-yrs			
92	–	$5,500 [a] [not including transportation]	79	176.75	1. $ 38,727 2. 50,000 3. 119,000 [not including equipment]	53.8%	36.7%

TOTAL BUDGET — 9/18/60 - 7/31/69

Salaries	$3,081,338
Allowance	863,886
Travel & Transportation	1,092,649
Other Direct Costs	713,681
Overhead	1,170,997
Equipment	459,277
Participant	574,412
	$8,456,190

[a] MSU's estimated average

[b] 1. Arithmetic average over project period based on analyzed budget.
2. Average corrected for inflation at 9% per year reflecting end of project prices.
3. Estimate for 1977.

B^6 Johns Hopkins University/University of Lagos

U.S. University (Department)	Nigerian University (Department)	Sponsor	Contract Dates	Funds
Johns Hopkins University	University of Lagos (Institute of Child Health)	AID/Pha-C [Ford]	11/73-12/76 3 years	$484,874

OBJECTIVE: To train nurses, midwives and other health workers; provide consulting and technical assistance toward improving and expanding health education and care of mothers and children; and to provide preventive care education including nutrition.

Participant Training			Faculty Recruitment			Average Overhead Rates	
U.S. Trained Nigerians		Est. Average Cost per man-year	U.S. Team in Nigeria(longterm)		Est. Cost per man-year [b]	On-Campus	Off-Campus
#	man-yrs		#	man-yrs			
2	1.75	$9,300 [a] [not including transportation]	3	3.95	1. $102,300 2. 116,500 3. 126,900 [not including equipment]	45%	27.5%

TOTAL BUDGET

Salaries	$ 21,600	[Consultant fees]
Allowance	20,188	[Fringes]
Travel & Transportation	144,200	
Other Direct Costs	78,900	
Overhead	71,000	
Equipment	3,000	
Participant	65,308	
	50,678	
	30,000	
	$484,874	

[a] Based on Johns Hopkins figure: $16,300 per 1.75 man-years.

[b] 1. Arithmetic average over project period based on analyzed budget.
2. Average corrected for inflation at 9% per year reflecting end of project prices.
3. Estimate for 1977.

APPENDIX B

SECONDARY EDUCATION AND UNIVERSITY ADMISSIONS

APPENDIX B

SECONDARY EDUCATION AND UNIVERSITY ADMISSIONS

Arthur J. Lewis
University of Florida

Programs in Nigerian universities are affected by the nature and effectiveness of secondary schools. The interface between secondary schools and the universities is particularly fluid at this time. This has resulted in a variety of special programs in the universities and in alternative provisions for admissions.

Historically, Nigerian secondary education has included a Sixth Form with admission to the university based on successful completion of the higher school certificate (H.S.C.). With this level of preparation, the universities offered a three-year undergraduate degree. Continuation of the Sixth Form was recommended by the Ashby Commission (1960) and officially supported by the Government of Nigeria at that time.

The number of Sixth Form schools increased rapidly as nearly all secondary schools aspired to offer studies leading to the H.S.C. Inadequate support of these burgeoning Sixth Form schools resulted in a serious shortage of equipment and materials. Trained teachers were in short supply, particularly in the science and mathematics fields. It is not surprising that the results of H.S.C. examination were increasingly disappointing. Because there was an insufficient number of university applicants with H.S.C., and because many of those with the H.S.C. were marginal, several universities instituted a four-year program including a "preparatory year."

Future directions for secondary education are clearly charted in the National Policy on Education (Federal Republic of Nigeria, National Policy

on Education, 1977). Secondary education will be of six years' duration, three years in a junior secondary school stage and three years in a senior secondary school stage. The policy states "The Sixth Form as at present constituted will be abolished. Pupils will go direct from secondary school to university." (p. 11) According to the policy, universities will have to restructure their courses from the three-year to the four-year degree course pattern to suit the six-year secondary school system. The Government policy recognizes that implementation of the 3-3 secondary education system must take some years. The new system is scheduled to commence with the first set of universal primary education products--in about five years.

In the interim period a variety of ad hoc procedures for admission are being used. Students are still encouraged to enter the Sixth Form--a newspaper advertisement (March 9, 1977) invited students to apply for admission into any of 32 Government Colleges offering the Sixth Form. Students who pass the H.S.C. with acceptable grades are eligible for admission to a three-year undergraduate program in most universities. It is anticipated that this will be a relatively small intake. For example, the University of Calabar estimates that approximately 10 percent of each year's entrants will be A-level holders. Officials at the University of Calabar, however, expressed a preference for "0" level entrants, as they believe that the extra year of work at Calabar will provide a better foundation for university work.

An alternative route to university admission is through an entrance examination. At the present time, universities set their own examinations. However, a proposal for a national entrance examination and admission procedure (Angula Commission) has just been approved by the Nigerian Government. Students ordinarily need "0" level in the West African School

Certificate Examination to sit for the entrance examination with exceptions made for mature students.

Universities are making provisions for "0" level entrants. For example, all "0" level entrants to the University of Calabar spend one or two years in pre-university courses. Students whose future degree goals are in the arts-based discipline take the courses in the Faculty of Art, while those whose degree goals are in science-based disciplines take their courses in the Faculty of Science.

Various procedures are being used to prepare students for entrance examinations. The Nigerian Government has instituted Schools of Basic Studies in 11 states. Students who pass course examinations at the conclusion of basic studies offered in a university will automatically gain admission to that university. Universities are also offering preparation courses for entrance examinations--some are designated as basic studies courses, while others are part of a preparatory program. Some universities are offering special short-term remedial courses in order to prepare students for examinations. For example, the University of Jos has mounted a multimedia educational campaign utilizing television, radio, and newspapers in order to prepare students for the entrance examination. Self-instruction by students and commercial tutoring schemes will probably continue.

As Nigeria moves through this period of university expansion some questions regarding the schools of basic studies will need to be answered. Will it be possible to recruit and maintain staff of sufficiently high caliber to successfully prepare students for entrance examinations? How long will universities need to offer courses of basic studies? (It is probable that universities will fill all student places by accepting as

many students as possible in the undergraduate program and using the remaining places for students in basic studies.) Assuming that it takes three to four years before schools of basic studies can produce enough qualified students for universities, what happens to these schools when the three year-three year secondary education program is implemented in five years? Will schools of basic studies disappear or become second stage secondary schools?

Some Nigerians express concern over the academic bias of schools of basic studies. The mission of these schools is clear: prepare students for universities. They ask, is this singular emphasis consistent with national policy to produce technical manpower for middle level jobs?

APPENDIX C

NIGERIAN UNIVERSITIES: PROJECTED DISTRIBUTION OF ENROLLMENTS AND TEACHERS BY DISCIPLINE 1975/81

APPENDIX C
NIGERIAN UNIVERSITIES

Projected Distribution of Enrollments and Teachers By Discipline 1975/81

	Actual 1971/72	Actual 1972/73	Actual 1973/74	Actual 1974/75	NUC RECOMMENDATIONS 1975/76	1976/77	1977/78	PROJECTED 1978/79	1979/80	1980/81	1980/81 Teachers Increases Over 1974/75	Over 1975/76
1. Arts & Social Sciences:												
Students	5,192	6,181	6,844	6,768	8,169	9,700	10,300	11,000	11,900	12,800		
Teachers	629	700	810	815	892	970	980	990	1,000	1,067	252	175
Ratio	8.2	8.8	8.4	8.3	9.2	10.0	10.5	11.1	11.9	12.0		
2. Sciences:												
Students	2,896	3,361	4,144	4,269	5,942	7,000	7,800	8,400	9,500	11,000		
Teachers	456	491	669	746	865	1,014	1,066	1,080	1,100	1,220	474	355
Ratio	6.4	6.8	6.2	5.7	6.9	6.9	7.3	7.8	8.6	9.0		
3. Agriculture:												
Students	1,324	1,418	1,704	1,997	2,320	2,600	2,875	3,250	3,500	3,800		
Teachers	204	255	283	333	382	400	412	416	420	447	114	65
Ratio	6.5	5.6	6.0	6.0	6.1	6.5	7.0	7.8	8.3	8.5		
4. Medicine:												
Students	1,904	2,382	2,706	3,251	4,092	4,720	5,500	6,400	7,500	9,000		
Teachers	400	576	598	690	967	1,065	1,196	1,320	1,480	1,636	946	669
Ratio	4.8	4.1	4.5	4.7	4.2	4.4	4.6	4.8	5.1	5.5		
5. Education:												
Students	2,171	2,424	2,969	4,094	5,139	6,600	7,200	7,800	8,400	9,000		
Teachers	142	174	217	243	359	382	440	472	509	545	302	186
Ratio	15.3	13.9	13.6	16.8	14.3	17.3	16.4	16.5	16.5	16.5		
6. Engineering & Technology:												
Students	1,375	1,814	2,016	2,414	2,886	3,000	3,420	3,900	4,400	4,900		
Teachers	187	213	273	310	389	400	450	500	560	598	288	209
Ratio	7.4	8.5	7.4	7.8	7.4	7.5	7.6	7.8	7.9	8.2		
7. Environmental Design:												
Students	119	183	508	657	758	1,000	1,250	1,500	1,800	2,100		
Teachers	13	21	59	62	85	112	134	155	180	210	148	125
Ratio	9.2	8.7	8.6	10.6	8.9	8.9	9.3	9.7	10.0	10.0		
8. Administration:												
Students	492	800	1,251	1,485	1,555	2,000	2,500	3,000	3,500	4,000		
Teachers	87	105	129	152	159	165	192	222	250	267	115	108
Ratio	5.7	7.6	9.7	11.3	9.8	12.1	13.0	13.5	14.0	15.0		

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APPENDIX C
NIGERIAN UNIVERSITIES (continued)

Projected Distribution of Enrollments and Teachers by Discipline 1975/81

	Actual				NUC RECOMMENDATIONS			PROJECTED			1980/81 Teachers Increases	
	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	Over 1974/75	Over 1975/76
9. Law:												
Students	842	785	1,271	1,196	1,343	1,600	1,850	2,150	2,450	2,450		
Teachers	70	78	83	85	99	106	120	134	153	153	68	54
Ratio	12.0	10.1	15.3	14.1	13.6	15.1	15.4	16.0	16.0	16.0		
10. Basic Studies:												
Students	426	856	1,085	894	1,000	1,000	1,000	1,000	1,000	1,000		
Teachers	26	45	69	74	78	80	80	80	80	80	2	2
Ratio	16.4	19.0	15.7	12.1	12.8	12.5	12.5	12.5	12.5	12.5		
11. All Disciplines:												
Students	16,957	20,204	24,498	27,025	33,204	39,220	43,695	48,400	53,950	60,050		
Teachers	2,336	2,658	3,235	3,529	4,275	4,694	5,070	5,369	5,752	6,223	2,694	1,948
Ratio	7.3	7.6	7.6	7.7	7.8	8.4	8.6	9.0	9.4	9.6		

Source: National Universities Commission

APPENDIX D

NIGERIAN UNIVERSITIES: BREAKDOWN OF ACADEMIC STAFF BY NATIONALITY

APPENDIX D
NIGERIAN UNIVERSITIES:
BREAKDOWN OF ACADEMIC STAFF BY NATIONALITY

1974/75

University	Nigerians	Expatriates	Total	% of Expatriates in Total
Ahmadu Bello	443	411	854	48.12
Nsukka *	584	107	691	15.48
Lagos	396	62	458	13.53
Ibadan	651	148	799	22.73
Ife	479	144	621	30.06

1975/76

Ahmadu Bello	452	442	894	49.44
Nsukka *	584	107	691	15.48
Lagos	559	60	619	9.69
Ife	-	-	-	-
Ibadan	-	-	-	-

* Figures do not include Calabar Campus

Source: National Universities Commission

APPENDIX E

ACADEMIC FIELD REPORTS

1. DEVELOPMENT OF MEDICAL EDUCATION IN NIGERIA

James P. Dixon, M.D.
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Data collected on the field visits to the universities and supplemented by information in the National Universities Commission's Working Party Report on Medical Education generally confirms the preliminary information furnished to the ACE/OLC Task Force prior to the visit. Implementation of the policy decision to increase the number of physicians in Nigeria does indeed create the single most severe demand for faculty. What is planned is a marked increase in medical enrollments for the next five or ten years. The two best established medical schools at Ibadan and Lagos will be expected by 1980 to be enrolling 500 students annually. All the remaining schools will be expected to enroll 300 students annually.

In addition to those at Lagos and Ibadan, medical schools are now established at Ife, Benin, Nsukka, Zaria, and Jos. Maiduguri and Ilorin are expected to admit students in 1977; Calabar and Sokoto in 1978; and Kano and Port Harcourt in 1979.

Since the present number of graduates in medicine is small--300 per year--and the total number of physicians in the country is probably less than 4,000, the demand for faculty from outside of Nigeria will be very substantial. One confirms the estimate that the number of non-Nigerian faculty required will, indeed, be on the order of 600-900.

The demand for faculty could, of course, be influenced somewhat by the educational strategy which the country uses to prepare medical students. Presently, it is planned to enroll students in a pre-medical year from which they will move to a three-year track followed by one year of internship which will then qualify the student for practice in Nigeria.

After the year of internship, each physician is required to undertake a year of national service. The dominant educational practice in medicine continues to be patterned after the United Kingdom's experience. It is true that American influence at Zaria, Nsukka, and Ife has introduced the possibility of some variation. At Ife, there is a Bachelor of Health Sciences degree which is intended to provide a preliminary training not only for medicine but for other health disciplines. It is, however, the view of deans in other medical schools that this model will not replace the pre-clinical model of the United Kingdom throughout the country. Some thought has been given to the possibility of concentrating pre-clinical or a combination of pre-medical and pre-clinical medical training in two or three sites throughout the country, but I found no strong evidence in our survey that this would be undertaken. It has also been suggested that the basic sciences be brought together in a single faculty which would serve all of the health disciplines in a single university. There is little hard evidence that matters will proceed along that line either. Since the Nigerian leadership for medicine for the most part has been trained at Ibadan and in the United Kingdom, it seems fair then to assume that the dominant pattern for medical education will be based upon that experience for the period ahead.

There is interest in developing auto-didactic teaching methods within Nigerian universities. Given the fact that the secondary school experiences of medical enrollees will have been in the British system which is anything but auto-didactic, it seems unlikely that the rapid introduction of such methods will occur or create added efficiency in medical education unless very considerable attention is paid to efforts to train students how to learn in an independent fashion.

From an examination of the ratios of students to teachers at Ibadan and Lagos Medical Schools, it would appear (without making any correction for part- and full-time faculty) that a ratio of students/teachers of 1.4 is a sound basis for planning. This may be a misleading figure, for the information in the Medical Education Working Party Report, confirmed somewhat by findings in the field, suggests that a very substantial number of the clinical teaching faculty in the medical schools are quite part-time since they carry, at the same time, private practices. This is particularly so at Ibadan and Lagos. The number of private practitioners in the northern cities appears to be very small. One estimate which was received was that there are only one or two private practitioners in all of Maiduguri.

Presently the most critical faculty shortages are in the pre-clinical fields. Demands for faculty in Anatomy, Physiology, and Pathology exist even in the established medical schools. It was commonly reported that the acquisition of clinical faculty will be much less difficult, although it is acknowledged that in certain specialties such as Anaesthesiology, Radiology, and Opthamology there will be acute shortages. But it seems possible that the pull toward private practice, as an increasing number of physicians are prepared, will be strong enough so that chronic shortages of Nigerians may also exist in the clinical fields for some period of time.

The opportunities for post-graduate training for specialization in Nigeria are severely limited, existing in substantial quantity only at Ibadan and to some extent at Lagos. In order to achieve an adequate training in specialties, substantial numbers of Nigerian physicians will need to have access to such training overseas.

In implementing the plan for the provision of health services in Nigeria--which along with education is a major target for investment of

resources in the infra-structure of the country--the universities are expected to provide only the professional manpower. They are not expected to make a large direct contribution to the provision of services. The provision of services remains a responsibility of the Ministry of Health which carries also the responsibility to train para-professional personnel. It is not likely that Nigerian universities will participate in preparing doctors for the practice of simplified medicine. The history in Nigeria of preparation of a secondary level of medical practitioners is such as to discredit this as a course of action. What is more likely is that there will be a demand for additional training of nurses in order that they may become nurse-practitioners.

While it is true that the university hospital constitutes the major source of tertiary medical care in the country, these hospitals will not be operated by the universities but will be operated by the Ministry of Health. Such an arrangement virtually insures that there will be a critical tension between the demands for increased medical personnel and concern for the quality of education.

Despite this division of administrative responsibility, the newer medical schools particularly at Jos and Ilorin intend to incorporate a substantial amount of experience in community health practice in the undergraduate and medical curriculum.

There is an urgent need to place Nigerians in key positions within medical education. It seems clear enough that this will be entirely possible now at the level of deans, but more difficult at the level of chairmen of departments. Some expatriates will be needed for some of these positions for some time. They need to be carefully chosen for their ability to collaborate with, rather than seek to influence, the development of national health policy.

As is true elsewhere throughout the world, medicine is a well compensated profession in Nigeria. There is as yet an unresolved issue as to whether the clinical faculty should be employed full-time in the medical schools. Regardless of how this issue is resolved, it is clear that one of the elements of a recruitment policy may be a substantial increment in the compensation of clinical faculty above the established university scale. In this sense, there is a clear similarity between Nigeria and the United States.

Analysis

Nigeria with a population of over 70 million has about 4,000 physicians, one third of whom are foreigners. In 1974-75, there were four medical schools enrolling 3,251 students with 690 faculty that graduated 245 physicians. For 1981, there are projected 13 medical schools with 9,000 students with 1,636 faculty for student/faculty ratio of 1.5 percent--an increase of about 6,000 students and 950 faculty.

In 1975-76, there were 112 fully accredited medical schools in the United States, four provisionally accredited schools, and 17 schools under development or planned. There were, in these schools, 56,244 medical students, 30,330 full-time faculty with a medical student/faculty ratio of 1.4 percent. Of the faculty, nearly 11,000 were in the basic sciences and nearly 40,000 in clinical sciences. From this pool of American resources, it would seem plausible to assume that a substantial proportion of the 950 new faculty needed, 2 percent of the total U.S. faculty in 1975-76, might be recruited, especially if one adjusts this figure to a target of one third of the expatriate equivalent coming from the United States, reducing the demand to slightly over 300. This would seem, on the face of it, an altogether practical possibility.

A further examination of the data indicates that in the United States the production of advanced degree holders in the basic sciences in 1975-76 was as follows:

Anatomy --58 Masters Degrees, 121 Ph.D.s
Biochemistry--119 Masters Degrees, 251 Ph.D.s
Microbiology--158 Masters Degrees, 239 Ph.D.s
Pathology --65 Masters Degrees, 77 Ph.D.s
Pharmacology--65 Masters Degrees, 177 Ph.D.s
Physiology --122 Masters Degrees, 156 Ph.D.s*

There is a vacancy rate in 1975-76 of positions in the basic sciences in the United States medical schools of approximately 6 percent. How much this vacancy rate is generated by necessity of encumbrance of funds and how much by necessity for added teaching strength is not clear. It would seem, however, that under appropriate circumstances of employment some number of the emerging Ph.D.s could be deflected to the Nigerian universities.

The situation, in terms of provision of post-graduate training in the United States in the clinical sciences, is promising. As of September 1, 1974, of the total residencies available in the United States, 37,140 were filled by U.S. and Canadian graduates and 15,375 were foreign graduates. Foreign graduates constituted 54 percent of those in Anaesthesia, 87 percent of those in General Practice, 52 percent of those in Radiology. Combining internship and residency opportunities, one finds that in 1964-65 the total number of positions filled by foreign graduates was about 11,000. By 1974-75, this figure had risen to slightly over 18,000.

*1975-76 Ph.D. enrollments were: Anatomy, 891; Biochemistry, 1,657; Microbiology, 1,435; Pathology, 532; Pharmacology, 1,167; Physiology, 1,201.

In sum, it would seem that there is a reasonable possibility that arrangements could be worked out so that substantial numbers of faculty for the Nigerian medical schools could be developed in cooperation with American schools. It would seem likely that advanced training opportunities do exist in the basic sciences and in the clinical sciences; and that if a way could be found to tap them, the faculty presently serving in the medical schools might be attracted to one- or two-year periods of service in Nigeria. But given the number of faculty which the Nigerian universities need and the diversity of the fields which must be represented, it would seem unlikely that these needs could be met unless there could be established some collaborative institutional relationships between American medical schools and Nigerian counterparts. Some priority would need to be given by the American medical schools to meeting the Nigerian needs out of their slack in order for there to be promise that development of adequate expatriate staff in the categories wanted could reliably support the schedule of Nigerian development.

Toward this end, it would seem wise, in addition to the efforts to implement all the general recommendations of our study group, that we consider some special invention which would help facilitate, over the next five or ten years, a relatively stable developing relationship between American and Nigerian medicine. In order to support such a relationship, it would probably be important not only to have the collaboration of the American medical schools and their parent universities, but also to have the support and collaboration of the American Association of Medical Colleges, perhaps the American Medical Association, and perhaps also other specialty and research groups which figure prominently in medical education. One way to test the possibilities would be to convene a group of Nigerian

and American counterparts to plan in some detail the ways and means by which the Nigerian needs could be met.

All of the foregoing does not exclude the possibility of recruitment of senior persons from the field of medical practice. There are 380,000 physicians in the United States and its possessions. Some are bored with practice. Many would be competent to turn to teaching and, in certain economic circumstances, to do so with a short-term loss of income without hardship.

Because of the strong content in community medicine in the Nigerian medical curriculum and the absence of public health as a recognized discipline, some linkages might well include universities with schools of public health. This would serve to strengthen the resources for the teaching of Epidemiology, Environmental Health, Nutrition, Demography, and Health Administration.

The problems in other health disciplines may be similar to medicine. Pharmacy faculty may be easier to recruit. Faculty in Dentistry and Veterinary Medicine are probably more difficult to obtain.

2. AGRICULTURE IN NIGERIAN UNIVERSITIES

J. Duain Moore
University of Wisconsin

Of the six older universities, four have faculties of agriculture--University of Ibadan, University of Nigeria-Nsukka, Ahmadu Bello University, and University of Ife. The University of Ife also has a strong Institute of Agricultural Research and Training that originally was part of the Ministry of Agriculture and Natural Resources of the Western State. Of the seven new universities, four have been assigned faculties of agriculture--University of Calabar, University of Maiduguri, University of Sokoto, and University College, Port Harcourt. University College Ilorin and Bayero University College, Kano, each had requested faculties of agriculture, but their requests were not granted by the National Universities Commission (NUC) under the present development plan. All of the new universities hope to have faculties of agriculture eventually with a strong orientation to provide extension service to farmers.

Under the Federal Military Government Program of Operation Feed the Nation (OFN), all 13 universities are obligated to operate university farms manned to a large extent by university students. In most instances, where a Faculty of Agriculture does not exist at present, the Faculty of Biological Sciences is in charge of farm operations. Indeed the Faculties of Biological Sciences, in many instances, include applied work in such disciplines as Agronomy, Horticulture, Soils, Plant Breeding, Economic Entomology, etc. Several Vice-Chancellors of the new universities expressed a desire to have immediate help in planning their farm location and development.

According to the NUC allotment of faculties to the new universities, Maiduguri and Port Harcourt are scheduled to begin degree programs in Agriculture in 1978, Calabar in 1979, and Sokoto in 1980. In addition, Faculties of Veterinary Medicine are planned for Sokoto in 1979 and for Maiduguri in 1981, since most of Nigerian livestock is raised in the north. In accordance with the national goal to have special missions for each university, the Sokoto Faculty of Agriculture will have a major in Forestry. Maiduguri will specialize in Irrigation and Animal Husbandry since there is an adequate underground water supply and much livestock is raised in the area. Port Harcourt will develop an Institute of Agricultural Research. Calabar sees its role in Agriculture to be primarily one of training farmers for the diversified crops of the area (annual crops such as rice, maize, cowpeas, yams, okra, tomatoes, and permanent crops such as cocoa, coffee, kola, oil palm, citrus, pineapple). All are committed to serving the needs of the community. Each of the new Faculties of Agriculture is expected to have more than five departments eventually.

The delay in starting the Faculties of Agriculture and Veterinary Medicine is due in part to a realization that students will need a good beginning in basic sciences before these faculties can be launched. Also, it is thought that the present Faculties of Agriculture are not being used to capacity, and there is a concern that agriculture graduates of universities do not become farmers.

As the new Faculties of Agriculture are started, it would seem to be desirable not to establish separate departments at the outset but to delay until such time that there are sufficient numbers of staff in different disciplines to warrant departmental status. However, with the urgency of the OFN programs, some senior people should be hired as soon

as possible to help plan the university farms for teaching and research as well as the OFN program. Senior persons are also needed at once to plan curricula and syllabi, classrooms and laboratories, and to order special supplies, machinery, and equipment. Critical attention should be paid to soil and water conservation practices in the clearing of the lands and the layout of the farms.

While we understand the concern that few, if any, graduates of Nigerian Faculties of Agriculture have become practicing farmers, we hope this will not prevent the development of additional Faculties of Agriculture in other universities in new developmental plans. It is not surprising that most graduates have gone into Ministries of Agriculture, where their services are available to do relevant research and to take the results of research to farmers. It can be expected that as these needs are met and agriculture can be changed from a "shifting" land use to "fixed" land use, farming will acquire more status and attract well-trained people. Furthermore, improvements in crops and animals through breeding and selection programs and improved cultural and husbandry practices will also make farming more attractive.

The older Faculties of Agriculture all have had strong linkages with American universities in the development of both undergraduate and graduate programs. There is still a need for additional assistance in many areas of graduate work both in teaching and in furthering the development of viable research that is relevant to Nigerian needs and goals. The new Faculties of Agriculture are also eager to plan for the day they will have graduate programs of their own.

It should be pointed out that the International Institute of Tropical Agriculture (IITA) in Ibadan is now playing a significant role in the

training of Nigerian graduate students in Agriculture, and there is no reason to think that this role will not be continued. However, the needs of the country are such that this fact should in no way delay the development of strong graduate programs in the universities. Indeed, as at present, some of the thesis research of the university graduate training could be carried out at IITA.

3. UNITED STATES INVOLVEMENT WITH ENGINEERING EDUCATION IN NIGERIA

John S. McNown
University of Kansas

Introduction

Current developments in Nigeria are sure to provide an exciting challenge to engineering educators in the United States. The scope proposed for assistance in Nigeria could produce an even larger operation than the major effort that was devoted to India in the 1950s and 1960s. Among the various professional fields that are particularly important to that country's development, engineering is second in importance only to medicine. Engineering educators in the United States need to consider how they will react to such a challenge.

Description of the System

Engineering education in Nigeria has deep roots in the British tradition beginning with the creation of a Faculty of Engineering at Zaria in the 1950s. Expatriate staffing, external examiners, and relationships with the Engineering Institutions of Great Britain have reinforced this tradition. Hence, the pattern is a three-year specialized program following two years of mathematics and science in advanced preparatory programs. The total course of study is usually one year longer than comparable programs in the United States.

Currently, engineering programs in Nigeria fall into three categories: (1) established and more or less traditional programs at Zaria, Nsukka, and Lagos--all more than 15 years old; (2) newer and more diversified programs in Faculties of Technology at Benin, Ibadan, and Ife; and (3) programs just being planned for three of the new universities.

The first graduates to be trained within the country came out of Zaria in 1960. At that time it was a faculty of the University of Ibadan. Nsukka and Lagos followed a few years later, graduating their first engineers in 1965 and 1967, respectively. Each of the three has divisions of Civil, Electrical, and Mechanical Engineering as well as additional programs such as Agricultural or Chemical Engineering. The first stage of higher education at Benin City was the Institute of Technology founded in 1970 which later became a University. It also offers the usual programs in Engineering but stresses Chemical and Petroleum Engineering. The Faculties of Technology at Ibadan and Ife were planned to supplement existing Engineering, Food Science, Wood Technology, Computer Science, and Forestry Engineering. This second group, also composed of three schools, first graduated engineers in the 1970s. The six schools will graduate nearly 600 engineers in 1977 and again in 1978 (see Table).

TABLE

Engineering Graduates from Nigerian Universities

	73-4	74-5	75-6	(Projected) 76-7	77-8
Ahamdu Bello Univ. (Zaria)	112	115	115	121	128
Univ. of Nigeria, Nsukka	55	85	83	146	164
Univ. of Lagos	52	67	86	100	109
Univ. of Ife	62	69	80	107	93
Univ. of Ibadan		8	33	54	65
Univ. of Benin		16	24	46	36
	281	360	429	574	595

The three new programs are planned for the Universities of Ilorin, Kano, and Port Harcourt which are just being established. The first intakes into Engineering will take place sometime in the period 1978-80; hence their first graduates will appear in the early 1980s. Officials at the three new institutions expressed their intentions of planning for areas of study most likely to serve the needs of indigenous employers even if they were thus obliged to depart from the traditional Faculties of Civil, Electrical, and Mechanical Engineering as did Ibadan and Ife. In addition, Port Harcourt intends to add an extra year to its program in order to provide shop and field experience as compensation for the lack of technology in the background of their students. The new universities have formed study commissions or are planning to do so, but none of them has as yet recruited staff in Engineering for detailed planning and implementation.

Issues To Be Resolved

Several issues arise within the system for educating engineers for Nigeria. One is the size of the demand for engineers at the bachelor's and higher levels. The Table indicates that the output is growing from 300 to 600 in the current five-year period, 1973-78. In addition, significant numbers are being produced overseas, particularly in the United States and United Kingdom. The most recent figures available for the United States show that 600 Nigerians were enrolled in degree courses in 1973-74, and that number is almost surely growing also. An additional 150 were pursuing advanced degrees. The number of Nigerian graduates in engineering will reach 1,000 per year by about 1980 and will continue to

grow during the next decade with normal growth at the older schools and the beginning of production from the newer schools.

Additional questions arise with regard to the kinds of institutions to be created. An important issue in Nigeria is whether to create one or two institutes of technology, on the pattern of such technological institutions in Western Europe, the USSR, and the United States, much as was done recently in India. Also, several industrial centers are being planned to work closely with the universities but to be managed independently. They will have the objective of developing new technologies needed in Nigeria while offering exposure and practical experience in technological processes to the students.

A final issue is the selection of the kinds of courses to be offered. The system is obviously in a state of transition. Both the level of sophistication and the areas of specialization are being adapted to present and future practice in Nigeria. Traditional programs are related to the more sophisticated technology of the western world, whereas practice in Nigeria has different emphases. The trends toward such narrow areas of specialization as food technology are unusual. In much of the world the trend is rather to less specialization or to different kinds. New departments stress such broad concepts as energy, materials, processing, and communications rather than the narrower applications. Nigeria needs to consider carefully its long-range objectives.

Recruitment of Staff

Nigeria has a sizable and rapidly growing pool of engineering graduates. A significant fraction of them have earned advanced degrees in the United Kingdom and the United States, and can be considered for teaching appointments. As with all professions, however, the attraction

of professional practice is great, both intrinsically and financially. The needs of government and industry are large indeed. Thus the universities must manage with the small fraction of engineering graduates who are both qualified and inclined toward teaching. In the United States this fraction is only about 1 in 20. Thus Nigeria's task of staff development remains difficult in spite of the long tradition of engineering education.

Nigeria's need for expatriate teachers of engineering is accordingly large. The NUC puts it at about 200 in 1980. Even older institutions would like some assistance, and the newer ones will require senior staff to provide leadership during the formative years and others at various levels to help carry the load. If these people were to come from the established universities in Nigeria, the problem would remain because their positions would still need to be filled.

U.S. engineering schools have supplied teams to teach engineering to many parts of the developed world over the last quarter of a century; among them are India, Afghanistan, Peru, Korea, and Nigeria, to name only a few. And they can do so again. The size of the task is impressive, however. If Nigeria were to obtain the 200 people they expect to need from U.S. engineering schools, they would probably have in one country more engineering teachers than have been working abroad at any one time. The publication Open Doors (Institute of International Engineering, New York) indicates that some 200-300 engineering faculty go abroad from the United States in any one year, but since nearly half of these go to Europe, the number involved in technical assistance at any time is 100-150.

Nigeria's needs can be met from the United States only if a significant number of the larger engineering schools choose to become involved.

Fifteen teams of ten each would provide 150, and such a major effort is about the only way of meeting Nigeria's essential needs. Individual recruitment can produce only a small number, perhaps a few dozen at most, and very few of these would be the senior people needed to provide leadership. The principal sources of individual recruitment are the recent recipients of Ph.D. degrees and the cadre of teachers who are in their sixties, still in good health and ready for one more challenge. The most useful of the latter group would be those who have worked abroad successfully before.

A deliberate program to disseminate information will be required. The International Division of the American Society for Engineering Education is the most significant group to be enlisted. In addition, the professional societies have educational panels and related activities. Some of these groups could be prevailed upon to become involved. Certainly with any of the linkages, the nine Nigerian universities with engineering faculties should include this discipline among its active group. All recruitment activities will be more effective if they were aided by a campaign to explain and publicize the exciting developments taking place in Nigeria. Many people are challenged by a new frontier. With the right approach, a broad appeal could generate a significant level of spontaneous interest on which specific campaigns could build.

4. TEACHER EDUCATION IN NIGERIAN UNIVERSITIES

Arthur J. Lewis
University of Florida

Programs for teacher education in Nigerian universities will be influenced by the present supply and demand for teachers, future needs for teachers based on national plans, and alternative institutional arrangements for training teachers.

Present Supply and Demand of Teachers. There is a "massive shortage" of secondary school teachers--particularly Science and Math teachers. A large number of teachers in Science and Math are Arts graduates teaching out of field. As a result of ill-prepared Science and Math teachers, a small proportion of students are adequately prepared to enter Science and Math programs in universities. This, in turn makes it difficult to recruit good students for teacher education in Science and Math. It was reported that the salary scale for secondary school teachers was too low to compete with alternative occupations open to students in Science and Math.

Last year there was a major effort to recruit secondary school Science and Math teachers for Europe, the United Kingdom, and the United States. Although a large number of teachers applied, only a handful came to Nigeria. Ministry of Education officials recognize that the primary solution to the problem is to train large numbers of Science and Math teachers in Nigerian universities. As these individuals begin teaching, arts graduates teaching Science courses can be assigned to appropriate fields.

Future Needs for Teachers. The recent publication, National Policy on Education, indicates that a variety of additional teachers will be needed. At the primary level the Government has embarked on action "to ensure the success and universality of the UPE (Universal Primary Education) scheme,

by mounting a powerful campaign . . . to make parents education-conscious and awaken in them a burning zeal for education for their children." The success of this campaign will create a demand for thousands of additional teachers. Universities prepare teachers for primary teacher training colleges.

The National Policy on Education includes a number of other plans that will result in increased demands on teacher education:

. Provision for classes for handicapped children

. Employment of guidance personnel

. Provision of library services

. Expansion of secondary schools

. Expansion of technical schools

. Expansion of adult and continuing education

The expansion of universities (by an estimated 3,000 faculty members) will have implications for teacher education if the admonition of the Pro-Chancellor at the University of Ibadan is followed: "University faculty need to have a Diploma of Education if they are to deliver the goods."

Role of Nigerian Universities in Teacher Education. There are three types of teacher training institutions in Nigeria. Grade II teachers' colleges prepare primary school teachers. Entry level varies from passed Standard VI to West African School Certificate (WASC) holders. The length of the training program varies from five years to one year depending upon the entry level of the students. Advanced Teachers Colleges (A.T.C.) prepare teachers who hold the Nigerian Certificate in Education (N.C.E.) and who teach in the lower grades of postsecondary schools. The A.T.C.'s provide a two-year postsecondary training program.

Nigerian universities prepare teachers for upper secondary school forms, for Grade II teacher training colleges, and for Advanced Teacher Training Colleges. All thirteen of the Nigerian universities will provide teacher education. In general the Bachelor of Education (B.Ed.) degree is a four-year full-time course. Education students spend from one-half to two-thirds of their lecture time in the Faculties of Arts or Sciences. Holders of the N.C.E. may earn the B.Ed. degree in two or three years. A postgraduate Diploma of Education may be earned in a one-year full-time residential program or, alternatively, teachers in-service may earn the degree in a program running over two successive long vacations with the intervening academic year spent in supervised teaching practice. Graduate degrees in education are offered in the older universities and, eventually, will probably be offered in all universities. These degrees are an M.Ed. (a degree based on taking courses), M.Phil. (a degree based on research), and a Ph.D. degree.

In addition to degree work, universities provide in-service education through short courses, part-time courses, and courses over the long vacation. In-service education is generally offered through a university-based institute of education.

Colleges of Education are responding to new directions as charted by the National Policy on Education by offering new courses in such fields as special education and guidance and counseling. Some colleges recognize the need to extend curriculum help to all levels of education including assistance with: teaching methods, use of teaching aids and educational technology, continuous assessment, and staff development. The Executive Secretary of NUC emphasized the need for these types of curriculum help.

Individuals at different universities identified a number of areas in which staff help is needed. These areas include:

- Special education (particularly physically handicapped) (four universities)
- Vocational subjects--general (three universities)
- Educational administration (two universities)
- Adult and continuing education (two universities)
- Curriculum--including higher education (two universities)
- Agricultural education
- Business and distributive education
- Educational psychology
- Educational technology
- Health and physical education
- Home economics
- Industrial arts
- Social foundations

One Nigerian pointed out that the United States is the only place to recruit vocational specialists in such fields as agricultural education and business education.

University officials indicated a general need for two types of staff assistance: younger staff in the more general areas and experienced staff who can help to build up the new areas as listed above. The possibility of sending teams for intensive four- or five-week courses in some of the newer areas was presented.

Clearly, Nigeria is planning some significant and appropriate developments in education. The success of the plans will depend in part on the ability to train the needed teachers. Assistance from outside of Nigeria will be necessary to develop the necessary teacher training programs.

APPENDIX F

UNIVERSITY STAFF DEVELOPMENT

APPENDIX F
UNIVERSITY STAFF DEVELOPMENT

A. Staff Enrollment for Higher Degrees	1973/74	1974/75	1975/76
Ibadan	279	195	101
Lagos	83	122	167 (88)
Zaria	189	50	185 (96)
Others	35	81	292 (101)
Totals	586	448	745

B. Higher Degree Enrollments by Subject			
Arts and Social Sciences	182	116	120
Natural Sciences	109	84	93
Medicine	22	23	50
Engineering & Technology	79	60	103
Agriculture & Veterinary Medicine	81	55	45
Others	113	110	334
	586	448	745

C. Graduate Assistants	1973/74	1974/75	1975/76
In Nigerian Universities	N.A.	195	233
Foreign Universities	N.A.	225	244
Totals	N.A.	420	477

Note:

1. Number of MBA, M.Ed. and MED Graduates included are in parentheses.
   MBA = Master of Business Administration; MED = Master of Environmental Design

2. Usually a person recruited as a Graduate Assistant is regarded as a potential teacher, but he is not for budget purposes counted as one of the current teaching staff.

Source: National Universities Commission

APPENDIX G

DESCRIPTIONS OF NEW UNIVERSITIES

Nigeria

• Universities

1. THE BAYERO UNIVERSITY COLLEGE, KANO

The Department of Islamic Studies of Ahmadu Bello University was founded in Kano in 1963. This faculty served as the nucleus for the Bayero University College when it was formed in the fall of 1976. The college is to become the Abdullahi Bayero University in October 1977. It now includes Faculties of Education, Humanities, Natural Science, Social Science, and Business Studies; it also offers courses in Basic Studies to prepare students to enter the regular three-year university courses. During the next several years, it plans to add Faculties of Engineering, Law, and Medicine.

The enrollment at BUC is now about 1,200 of whom 260 are in the two years of preliminary studies in Humanities, Social Studies, and Science. The remainder are distributed throughout the various existing faculties with the larger numbers being in Education and the Humanities. BUC is obviously starting more rapidly than the other new institutions, probably because of its longer existence as a Faculty on its present site.

The small present campus of some 60 acres is just outside the wall to the southwest of the city of Kano. The new site is close enough to the old one so that both sites can be used later. The new site of 4,000 hectares is more to the west of Kano.

Constraints on planned growth are: (1) the overtaxed construction industry in Nigeria, (2) difficulties in acquiring staff, particularly at the higher levels, and (3) the limited availability of the requisite number of qualified students, particularly of northern students. The officials do not expect that money will be a major constraint if they are able to get over fundamental hurdles.

The attitudes and programs at BUC follow established tradition closely. Although a four-year university course is to be imposed by central authorities on all Nigerian universities sometime within the next several years, their present planning is based on three years of university after A-level studies or their equivalent. They also articulated clearly their desire that U.S. academics fit into their system.

Like other Nigerian institutions, they have plans to select and develop young staff and to utilize large numbers of expatriate staff in the long period during which their young people are studying and gaining experience. At present, Nigerian staff and expatriates are about equal in number, and this 50:50 ratio will probably hold during the early years of rapid growth. Later on, perhaps in five to ten years, the number of Nigerian staff should continue to grow while that of expatriates stays constant or falls off. Only this way is the proportion of Nigerians likely to increase.

The administrators at BUC support a plan whereby graduate studies at ABU would be strengthened to serve some of the training needs of the three new northern institutions. Staff at Kano feel that training nearby would produce less alienation and supply students who would be less likely to leave academe for jobs in government or private industry. And they have had the experience of long ties to ABU. However, in neither Sokoto nor Maiduguri did people endorse this pattern.

They also foresaw a need to send large numbers of students to the United States. They do not see much likelihood of recruiting significant numbers of Nigerians from within Nigeria or elsewhere at present. The number of northern Nigerians at more advanced academic levels is much too small to meet the needs of four institutions for many years to come. And the flow from Ibadan, Ife, and Lagos to new universities in the northern states is limited.

The officials at BUC mentioned special staffing needs in the Physical Sciences, Engineering, and Medicine. They have appointed commissions to study and devise new programs for Engineering and Law which reflect local needs. As at other places, they would particularly welcome a few senior people to provide leadership in new areas. They also want staff who could help them develop graduate studies and research. The predominant attitude seemed to be one of wanting the assistance of experts, but not in a way or to an extent that would cause the importation of attitudes and educational procedures which differ greatly from theirs.

They believe that they can attract Americans to Kano for various reasons. They are in a better position than most institutions with regard to housing, and they expect to be able to stay ahead of that need. They would expect only people who have a desire for a new experience, and they believe that anyone who comes will find a friendly reception, adequate pay, and attractive extra allowances. In a few areas, specialists would be attracted by research opportunities, despite limitations in others. In their limited experience, they have found that Americans can adapt readily to local conditions.

Key people on the BUC staff appeared somewhat reluctant to consider programs involving extensive linkages with institutions abroad. Several factors may underlie their concern. Their programs and objectives have strong roots in the local Moslem traditions, and they quite naturally intend to preserve these. Some feel that linkages between ABU and the United States did not endure because too many trainees left academic work soon after they returned. The conservatism alluded to already is a part of these attitudes. A final factor may be a lack of familiarity with the potential of linkages and the variety of approaches that can be used in their application. The institution is obviously undergoing a stage of development in which tradition and change are at odds. Anyone coming from outside to help them would inevitably become involved in these difficult adjustments.

BAYERO UNIVERSITY COLLEGE, KANO - PROJECTION OF FIRST DEGREE ENROLLMENT BY DISCIPLINE - 1976/84

(Choice of Disciplines based on the Tentative Agreement of the Academic Planning Group at its Meeting of June 1 and 2, 1976)

Disciplines	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
1. Education	300 (20)	400 (20)	500 (25)	700 (35)	950 (48)	1,150 (58)	1,140 (70)	1,700 (85)
2. Engineering	--	--	50 (10)	100 (20)	200 (30)	300 (40)	350 (45)	500 (50)
3. Humanities	400 (30)	500 (40)	550 (50)	600 (50)	700 (58)	800 (67)	900 (75)	1,000 (92)
4. Law	--	--	50 (5)	100 (10)	100 (15)	200 (20)	300 (25)	400 (35)
5. Medicine	--	--	--	100 (10)	200 (15)	300 (40)	450 (70)	600 (90)
6. Natural Sciences	100 (20)	200 (30)	300 (50)	400 (55)	650 (80)	850 (100)	1,150 (120)	1,600 (160)
7. Social Science & Business Studies	100 (10)	200 (15)	400 (30)	650 (35)	800 (40)	1,000 (60)	1,200 (68)	1,600 (80)
8. Total Enrollment in All Disciplines	900 (80)	1,300 (105)	1,850 (170)	2,450 (215)	3,600 (286)	4,600 (385)	5,650 (478)	7,500 (592)
9. New Entrants	350	550	650	750	1,350	1,500	1,650	2,100
10. Science-Based New Entrants	100	150	200	300	550	600	750	1,000
11. Arts-Based New Entrants	250	400	450	450	800	900	900	1,100

Notes:

1. Entries in parentheses are the recommended numbers of teachers in the Faculties. For every department in a Faculty, reckon one Professor and two Senior Lecturers for every establishment of ten.

2. The projections assume a mix of entry students with O-level and A-level qualifications. The degree programme for the A-level entrants is of three years duration in the basic academic disciplines of Arts, Social Science, and Science; and also in Law, Education, and Agriculture. For A-level entrants, the degree course in Human Medicine is 5 years.

O-level entrants spend four or five years for the degree in the basic disciplines depending on their academic standing. For such students, the degree course in Medicine is 6 or 7 years.

3. All students admitted with O-level qualifications (into pre-degree courses) in the Science-based disciplines of Natural Sciences, Medicine, and Science Education should normally take all their two-year or one-year pre-degree courses in the Faculty of Sciences. Similarly those admitted into the Arts-based disciplines such as Business Administration take their two-year or one-year pre-degree courses in the Faculty of Arts.

4. The implication of the above is that in the Faculties of Science and Arts students course registrations are high and the FTE numbers far exceed the actual students' registration in these Faculties.

5. In the basic academic disciplines, the last three years of the degree programme are normally spent on the degree work in the University. During the period, the students take the majority of their courses in the Faculties in which they are registered. Education is an exception, the degree students spend about 1/2 to 2/3 of their lecture time in the Faculties of Arts and Science.

6. All students will take General Studies Course.

Source: National Universities Commission

2. THE UNIVERSITY OF CALABAR

The University of Calabar was started in 1973, as a campus of the University of Nigeria, Nsukka. On October 1, 1975, it became a separate University. Most of the students who were there at that time did not transfer to Nsukka; instead they will finish at Calabar but get degrees from the University of Nigeria when they graduate. The other students transferred to Nsukka in order to take classes which were not available at Calabar.

At present, the University of Calabar prefers not to accept A-level students for direct entry into a degree program but rather to take O-level students who will do basic studies at Calabar first. They have 11,000 applicants for the 600 places for October 1977. An enormous building program is in progress involving classrooms and laboratories, a teaching hospital, student hostels, and over 100 staff houses. The present senior staff comprises more than 100 and the total staff is 200.

Calabar is rather remote from the rest of Nigeria but a new highway is under construction to link Cross River State with the remainder of Nigeria. Vice-Chancellor E. A. Ayandele, who is a historian, stated that Calabar is not, however, remote from western education because it has had strong European connections for many years, and many of her children have been educated in Britain. He considers the area to be comparatively literate and Cross River State to have many well trained people who should be able to encourage and assist with the development of the University of Calabar.

The University of Calabar now has faculties of Science, Social Science, Arts, and Education; it is scheduled to start a Faculty of Medicine in 1978 and Faculties of Law and Agriculture in 1979. The Faculty of Arts and Education will become two faculties in 1977-78. They plan to solve their staffing

problems by secondment, by recruiting from the open market, by sending graduate assistants for further training, and by linkages with other universities; linkages may be formed at the department, faculty, or even entire university level. The graduate assistants will be hired to fill specific roles, and if they do well, they will be supported for graduate training with assigned research projects relevant to Calabar's needs.

The Faculty of Science is in critical need of leadership in Physics, Mathematics, Chemistry, and Botany. Within Arts and Education the needs are for assistance in English and German and in linguistics, and for leadership in adult and continuing education. A course in the use of English is required for all beginning students; hence many English teachers will be needed. They also will require a course in scientific thought and history of science for all students in Arts. The Faculty of Arts also is in need of a professor of Philosophy. The Faculty of Social Science has two professors of Economics but could use staff at lower ranks in Economics. They also need leadership in Geography, Sociology, Political Science, and Management Studies. They intend to develop a diploma-level program in Management Studies for state-government employees. They will start a medical program soon and will need staff in the clinical areas particularly.

In Agriculture the Vice-Chancellor wants to have a clear indication of what can be done. He has written to Ohio State, Michigan State, Iowa State, and Wisconsin to see if some kind of linkage can be formed. The present university farm, about 30 acres, will expand when the Faculty of Agriculture is started, and they would like help now to plan the farm layout.

Calabar wants linkages in perhaps two or three areas. The deans of the various faculties are planning a trip to the United States, perhaps in spring 1977, to make contacts with American universities. They will operate through the African American Institute.

UNIVERSITY OF CALABAR - PROJECTION OF FIRST DEGREE ENROLLMENTS BY DISCIPLINE - 1976/84

(Choice of Disciplines Based on the Tentative Agreement of the Academic Planning Group at its Meeting of June 1 and 2, 1976)

Disciplines	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
1. Agriculture	--	--	--	50 (10)	150 (20)	250 (30)	400 (45)	650 (50)
2. Education	150 (10)	300 (15)	450 (20)	600 (25)	850 (30)	950 (35)	1,200 (45)	1,600 (50)
3. Humanities	225 (40)	280 (40)	380 (40)	450 (45)	550 (50)	700 (60)	900 (70)	1,200 (95)
4. Law	--	--	--	50 (10)	100 (20)	150 (25)	300 (40)	500 (75)
5. Medicine	--	--	100 (10)	200 (20)	300 (50)	400 (70)	550 (90)	750 (110)
6. Natural Sciences	475 (50)	500 (50)	520 (60)	550 (70)	700 (90)	800 (90)	1,000 (100)	1,250 (110)
7. Social Science & Business Studies	250 (30)	350 (40)	370 (40)	450 (45)	550 (50)	700 (60)	950 (75)	1,250 (100)
8. Total Enrollment in All Disciplines	1,100 (130)	1,400 (145)	1,820 (170)	2,500 (220)	3,300 (310)	3,950 (320)	5,300 (475)	7,200 (600)
9. New Entrants	400	450	650	765	1,225	1,200	1,850	2,425
10. Science-Based	150	200	300	380	625	600	1,000	1,300
11. Arts-Based New Entrants	250	250	350	385	600	600	850	1,125

Notes:

1. The entries in parentheses are the recommended number of teachers in each Faculty. For each department in a Faculty, reckon one Professor and two Senior Lecturers for every ten teachers.

2. The projections assume that approximately 10 percent of each years' new entrants will be A-level holders, 50 percent O-level holders of high academic standing and the rest less qualified O-level holders.

3. All O-level entrants spend one or two years in pre-university courses which are based in the:

   I. Faculty of Art for those students whose future degree goals are in the Arts-based disciplines

   II. Faculty of Science for those students whose degree goals will be Science-based.

4. The degree courses are normally taken in the students' Faculty of major subject. Education, however, is an exception. Education students spend from 1/2 to 2/3 of their lecture time in the Faculties of Arts or Science.

5. All students will take General Studies Course.

Source: National Universities Commission

3. THE UNIVERSITY COLLEGE, PORT HARCOURT

The University College at Port Harcourt, like the other two University Colleges, will be elevated to University status in October of this year. The dynamic Principal, D. E. V. Ekong, is an Organic Chemist who had his training in the United Kingdom and Germany. He had been a Professor at Ibadan earlier and, more recently, was Principal of the Calabar Campus of the University of Nigeria. UCPH has no students as yet, is housed in quarters that are small and widely spread, and has a teaching staff of 24 who are busy planning the new curriculum. The College has the usual 4,000 hectares of ground located some 15 kilometers northwest of the city of Port Harcourt. Despite the influx of industry brought on by the oil boom, the city retains some aspects of its old existence.

The College is heavily involved in planning and beginning a variety of construction projects. These include wells to supply water, sanitary facilities, temporary buildings, what they call "emergency buildings," and staff housing. In addition to the staff now working, about a dozen more are under contract and will soon arrive. Officials are looking for more staff from various sources. They already have recruited from the United States, Canada, and Poland. Nigerian staff are still in the majority.

They have had difficulties in recruiting from the United States. American academics do not understand the Nigerian system, their letters of recommendation are often not adequately informative as to the quality of the candidate, and the variations in the U.S. system cause problems in levels of appointment. Some candidates hold appointments at higher academic levels at less prestigious schools in the United States than they would in the more

closely coordinated Nigerian system. The University officials would welcome help in forming selection panels of U.S. educators composed of qualified people who also understand Nigerian conditions.

UCPH has appointed 16 graduate assistants who will go abroad for further education. The present staff members do not endorse the idea of sending students to universities elsewhere in Nigeria because (a) students want to go abroad, (b) staff members appear to want them to do so, perhaps for reasons of prestige, and (c) masters programs in Nigeria usually do not require course work, so that the student is not necessarily as well prepared to proceed directly to the Ph.D. at an institution overseas.

They need assistance in many fields, but particularly in Science, Mathematics, Pre-clinical Medicine, Public Health, General Basic Studies, Community Education, Rural Extension, Educational Technology, and other special fields which have developed in the United States. They would welcome help through any of a variety of channels: Fulbright-Hays or a Nigerian equivalent, direct recruitment, sabbatical leaves, and institutional links. They would also welcome assistance with the planning and early evolution of their professional faculties. Agriculture, Medicine, Business Administration, and Engineering are all to begin within the next few years. In such fields, they are determined to regionalize hospitals and rural clinics; they hope for close ties between agricultural education and the farmer; and they plan to offer an extra year of practical work to engineering students because of inadequate prior exposure to technological processes.

Officials at UCPH hold a progressive view of their mission. They plan to move immediately to a format of O-level entry, one year of remedial work, if required, and a four-year university course. They want their students to have well-rounded programs on which to base subsequent specialized courses.

They will utilize semester courses and include field studies. Evaluation of progress will be balanced between course examinations (75 percent) and comprehensive examinations (25 percent). The overall impression given by UCPH is one of a school with an able staff and a clear sense of mission which includes realistic adaptations to the community and an eclectic approach to their task. The problems of staying on their ambitious schedule appear to be formidable, particularly with the inevitable breakdowns in supply systems and limits on capacity for construction.

UNIVERSITY COLLEGE, PORT HARCOURT - PROJECTION OF FIRST DEGREE ENROLLMENTS BY DISCIPLINE 1976/84

(Choice of Disciplines Based on the Tentative Agreement of the Academic Planning Group at its Meeting of June 1 and 2, 1976)

Disciplines	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
1. Agriculture	--	50 (5)	100 (15)	150 (25)	250 (35)	350 (40)	450 (50)
2. Education	--	200 (10)	400 (20)	650 (30)	850 (40)	1,050 (45)	1,250 (50)
3. Engineering	--	--	--	100 (10)	200 (20)	300 (30)	450 (45)
4. Humanities	100 (15)	200 (25)	400 (40)	600 (50)	750 (60)	850 (70)	1,000 (90)
5. Medicine	--	--	50 (10)	150 (15)	250 (40)	400 (70)	550 (90)
6. Natural Sciences	150 (20)	300 (35)	450 (50)	650 (65)	750 (90)	900 (100)	1,000 (110)
7. Social Science & Business Studies	--	100 (10)	200 (15)	350 (30)	550 (35)	800 (40)	950 (60)
8. Total Enrollment in All Disciplines	250 (35)	850 (85)	1,600 (180)	2,650 (200)	3,600 (285)	4,650 (355)	5,700 (445)
9. New Entrants	250	550	700	925	1,100	1,200	1,400
10. Science-Based New Entrants	150	250	300	455	550	650	700
11. Arts-Based New Entrants	100	300	400	470	550	550	700

Notes:

1. Entries in parentheses are the recommended numbers of teachers in the Faculties. For every department in a Faculty, reckon one Professor and two Senior Lecturers for every ten staff positions.

2. The projections assume a mix of a 3-year, or 4-year integrated degree programme in the basic academic disciplines for entry student with A-level qualifications, or O-level qualification at high academic standing respectively and 5-year integrated degree programme for less qualified O-level entrants.

3. All O-level entrants take their pre-degree courses in the Faculties of Arts, or Science, depending on their degree goals. O-level students of high academic standing spend one-year on the pre-degree courses. Less qualified O-level entrants will be expected to spend two years on the pre-degree courses.

4. Because of the presence of the large numbers of preliminary students, student registration in the Faculties of Arts and Science are normally large.

5. In the basic academic disciplines, the last three years of the degree programme in the case of O-level entrants or the three-year degree programme in the case of A-level entrants are normally spent on the degree work in the University. For the degree course, the students take the majority of their courses in the Faculties in which they are registered. Education is an exception, the degree students spend about 1/2 to 2/3 of their lecture time in the Faculties of Arts and Science.

6. In the professions, such as Medicine, the duration of the degree programme is 5-year for A-level entrants and 6 or 7 years for O-level entrants. Since, however, the period of pre-university courses is normally spent in the Faculty of Science, the time which the O-level entry students spend in the Faculty of Medicine is also 5 years.

7. All students will take General Studies Course.

Source: National Universities Commission

4. THE UNIVERSITY OF ILORIN

The University of Ilorin was established in 1975, as a University College of the University of Ibadan. It is located in Ilorin, the capital city of Kwara state (with a population of about 400,000). The University is operating temporarily on the site of Kwara State College of Technology while its permanent buildings are being planned for a site six kilometers east of Ilorin; that site covers an area of 17,000 hectares. Adjacent to it will be a new teaching hospital and the permanent site of Kwara State College of Technology.

The University enrolled its first students in the fall of 1976. Altogether there are about 200 students, some of whom may have been previously enrolled in the College of Technology. These students are served by a rapidly growing faculty which at the time of the visit numbered about 100. The Vice-Chancellor of the University, a physician trained at Ibadan and internationally known for his work in Nephrology, has apparently been quite successful in recruiting Nigerians to his faculty. Some have come from posts in other universities.

The initial areas of concentration are the Applied Sciences and Technology, Arts and Humanities; Medicine and Engineering Faculties are planned for 1977-78. Later they hope to have a Faculty of Agriculture. The University expects to have 10,000 students in ten years.

As with the other new universities, the University will have special problems in developing a faculty for medicine. The Dean of Medicine has already been appointed. At the time of the visit, he was in the United States. In discussions, the Vice-Chancellor and the faculty noted that a generally-perceived weakness of the secondary schools in science increases

the difficulty in meeting the need for manpower in Science, Medicine, and Engineering.

The Vice-Chancellor emphasized the importance of encouraging town and gown interaction, particularly in Education and Medicine. The University plans from the very beginning to view itself as directly related to the affairs of the community which it serves. Mention was made of the use of the work-study model in Engineering and community-based programs which would insure continuing education and life-long learning.

As to the possibilities of increasing effective relationships with American education, the Vice-Chancellor stated that person-to-person linkages were more durable although institution-to-institution linkages might be more effective at the outset. Linkages with other Nigerian universities were desirable if they could be arranged on a non-political basis and with strong departments. A common interest in research was seen as a possible motivation for international linkages. One of the purposes of the visit of the Dean of Medicine to the United States was to explore such opportunities. Most of the impact of the linkages should be directed toward the recruitment of expatriate manpower and to opening up prospects for the collaborative development of Nigerian faculty. In addition, they would need some assistance and advice with curriculum planning, especially to implement multidisciplinary core studies. A particular need exists for assistance in the development of library resources. The building of adequate library collections may indeed be a problem common to all of the new universities.

UNIVERSITY COLLEGE, ILORIN - PROJECTION OF FIRST DEGREE ENROLLMENTS BY DISCIPLINE - 1976/84

Disciplines	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
1. Education	100	250	450	750	800	1,000	1,100	1,400
	(5)	(10)	(25)	(35)	(35)	(40)	(50)	(70)
2. Engineering	--	--	--	50	100	250	350	600
				(5)	(15)	(25)	(35)	(60)
3. Humanities	100	200	350	500	550	750	1,050	1,200
	(10)	(25)	(30)	(45)	(50)	(60)	(90)	(100)
4. Natural Science	100	200	300	500	650	800	1,000	1,300
	(20)	(30)	(50)	(55)	(80)	(90)	(100)	(130)
5. Medicine	1	100	200	300	400	550	700	800
	(6)	(10)	(20)	(45)	(80)	(120)	(150)	(175)
6. Social Science & Business Studies	--	100	250	400	550	650	900	1,300
		(10)	(25)	(30)	(35)	(50)	(60)	(100)
7. Total Enrollment in All Disciplines	300	850	1,550	2,900	3,050	4,000	5,000	6,600
	(41)	(75)	(150)	(215)	(305)	(385)	(485)	(635)
8. New Entrants	300	550	700	900	1,100	1,200	1,800	1,700
9. Science-Based New Entrants	150	250	300	450	550	650	800	900
10. Art-Based New Entrants	150	300	400	450	550	550	1,000	800

Notes:

1. The entries in parentheses are the recommended numbers of teachers in the Faculties. For each department in a Faculty, reckon one Professor and two Senior Lecturers for every ten teachers, i.e., 30 percent of the teachers should be persons of Senior Lecturer Grade and above.

2. The projections assume a mix of entry students with O-level and A-level qualifications. The degree programme for the A-level entrants as of three years duration in the basic academic disciplines of Arts, Social Sciences, and Science and also in the professions of Law, Agriculture, and Education. For A-level entrants, the degree course in Human Medicine is 5 years.

O-level entrants will spend four or five years for the degrees in the basic disciplines depending on their academic standing at the time of admission. For such students the degree course in Medicine is 6 or 7 years.

3. All students admitted with O-level qualifications (into pre-degree courses) in the Science-based disciplines of Natural Sciences, Medicine, and Science Education should normally take all their two-year or one-year pre-degree courses in the Faculty of Sciences. Similarly those admitted to the Arts-based disciplines such as Business Administration take their two-year or one-year pre-degree courses in the Faculty of Arts.

4. The implication of the above is that in the Faculties of Science and Arts, students course registrations are high and the FTE numbers far exceed the actual students' registration in these Faculties.

5. In the basic academic disciplines, the last three years of the degree programme are normally spent on the degree work in the University. During this period, the students take the majority of their courses in the Faculties in which they are registered. Education is an exception: the degree students spend about 1/2 to 2/3 of their lecture time in the Faculties of Arts and Science.

6. All students will take General Studies Course.

Source: National Universities Commission

5. THE UNIVERSITY OF JOS

The University of Jos gives evidence of an intention to develop rapidly. Chartered as a university in 1975, it was built upon a School of Basic Studies first developed by the University of Ibadan in 1971. The original program called for an eventual enrollment of 1,000 students in residence. Temporary facilities have been obtained to house the administration, library, and all facilities except science in Jos township. Hotels for men and women, complete with dining and student union facilities, science laboratories, and pre-clinical medical Laboratories are nearing completion on land outside Jos on Bauchi Road. A tract of approximately 4,000 hectares, contiguous with the Bauchi Road site, has been identified as the site for the development of a permanent campus. Preliminary planning is under way but no construction has been started on the new site. The new facilities are to be available within the next two to three years.

The Vice-Chancellor, a physician trained at Ibadan and Glasgow, has both M.D. and Ph.D. qualifications. He comes to his post from the Deanship of Medicine at Nsukka where he led the development of the Medical School. He and his staff view Jos as a developing institution which is moving in educational practice away from the British tradition toward a new Nigerian form of higher education. From experience at Nsukka and an analysis of Nigerian needs, they are planning the University as a comprehensive educational effort.

The University is mounting degree programs lasting either three or four years, depending on level of entry. All four-year students are required to take basic English and Mathematics at a level suitable to their declared field of interest. All students are also required to take a core of courses

in general studies as the means by which the University meets its obligations to be a "transmitter of the general culture to Nigerian Youth."

A faculty is being assembled and those already recruited are functioning. The teaching staff is approximately 50 percent Nigerian and includes a few Americans. The University is composed of Schools of Arts and Social Sciences, Natural Sciences, Education, Humanities, Environmental Sciences, and Medical Sciences. In October 1976, 467 students were admitted to the four-year program and 112 to the three-year program.

Library holdings include 26,000 volumes plus nearly 1,000 periodicals. The annual rate of expenditure for new acquisitions is ₦160,000 or $256,000.

Program statements for academic planning in Arts and Social Sciences, Natural Sciences, Education, Medical Sciences, and General Studies have been completed. These statements set forth the developmental plans as to curriculum, admission requirements, and post-graduate study. They see the early development of post-graduate programs as an essential aspect of University development.

The deans and officers are currently involved with staff recruitment at both lower and upper levels. They wish to avail themselves of specific graduate opportunities in the United States, particularly after the award of an M.Phil. from Jos. Faculty exchanges are desirable, especially with Americans having research interest relevant to African problems and interest of Jos faculty. They would welcome linkages with American institutions or associations for purposes of program development, staff development, staffing, and information exchange. Short courses for both faculty and administrators could assist with certain types of staff development. They would also welcome assistance with the design and production of educational materials and with educational management.

Jos views itself as a comprehensive educational institution. It plans to include preparatory work in its School of Basic Studies as part of its mission. In addition it will offer Extramural Education emphasizing the preparation of school leavers for admission to the University. To this end, correspondence courses, night classes, and radio and television course work are being devised. Eventually, it may award external degrees.

A readiness was expressed to work with the American Council on Education in Washington if possible. Nearly all their senior people have been trained in the United Kingdom. Hence, they need help in gaining effective access to the U.S. academic community.

While the faculty reported enthusiasm for their work, they also reported some problems. Staff housing is in short supply with many faculty living in rental quarters and hotels. The climate while pleasant in temperature because of the 4,000 feet elevation is adversely affected by the Harmattan. Faculty offices and teaching spaces are crowded and inadequate, and the transfer of attention to the construction of new facilities may exacerbate difficulties with the temporary facilities they are now using.

The University has already appointed a Dean for its Faculty of Medical Sciences and expects to begin pre-clinical training in the fall of 1977. The Dean expects to have serious difficulty acquiring an adequate faculty for pre-clinical medicine especially in Anatomy, Physiology, and Pathology. They will need to commence clinical training long before the new university hospital is completed on the new site. A state hospital in Jos will be used to provide the core of the clinical training until the new facilities are ready. However, the level of some services in the state hospital must be raised if the level of clinical education is to be satisfactory.

UNIVERSITY OF JOS - PROJECTION OF FIRST DEGREE ENROLLMENTS
1976/84

(Choice of Disciplines Based on the Tentative Agreement of the Academic Planning Group at its Meeting of June 1 and 2, 1976)

Disciplines	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
1. Education	200 (10)	300 (15)	400 (15)	600 (20)	700 (25)	900 (30)	1,100 (35)	1,500 (40)
2. Environmental Design	--	--	50 (5)	100 (10)	150 (15)	200 (20)	350 (35)	500 (50)
3. Humanities	200 (25)	300 (30)	400 (40)	550 (50)	550 (50)	650 (60)	750 (64)	1,100 (90)
4. Law	--	--	50 (10)	150 (10)	250 (15)	400 (15)	550 (25)	700 (30)
5. Medicine	50 (6)	150 (15)	250 (20)	350 (60)	500 (90)	650 (100)	800 (110)	900 (130)
6. Natural Science	150 (20)	300 (35)	450 (50)	600 (70)	700 (90)	850 (100)	1,000 (110)	1,300 (140)
7. Social Science & Business Studies	--	150 (20)	300 (30)	450 (40)	600 (45)	650 (50)	750 (50)	1,000 (60)
8. Total Enrollment in All Disciplines	600 (61)	1,200 (115)	1,900 (170)	2,800 (260)	3,450 (330)	4,100 (375)	5,300 (419)	7,000 (540)
9. New Entrants	600	600	650	850	1,150	1,300	1,650	2,400
10. Science-Based New Entrants	300	300	300	350	600	650	850	1,150
11. Arts-Based New Entrants	300	300	350	500	550	650	800	1,250

Notes:

1. The entries in parentheses are the recommended number of teachers in the Faculties. For each department, reckon one Professor and two Senior Lecturers for every staff establishment of ten.

2. The enrollment projections assume a 5-year integrated degree programme for some O-level entrants (about 40 percent) and a 4-year integrated degree programme for O-level entrants of high academic standing, the rest of the new intake (about 20 percent A-level).

3. All O-level entrants take their pre-degree courses full time in the Faculty of Arts or Science depending on whether their future degree goals are Arts-based or Science-based.

4. After the successful completion of the pre-university courses, students' lecture loads are normally concentrated in their departments or Faculties of major emphasis in which they are registered for degrees. Education is an exception, the degree students spend about 1/2 to 2/3 of their lecture time in either the Faculty of Arts or the Faculty of Science depending on their choice of academic subjects.

5. The duration of the degree in the disciplines of Arts, Social Science, Education, Science, Law is 3 years post A-level or 4 years post O-level of high standing, 5 years for weaker O-level entrants.

6. All students will take General Studies Course.

Source: National Universities Commission

6. THE UNIVERSITY OF MAIDUGURI

The University of Maiduguri is located in buildings which formerly housed the North Eastern College of Arts and Sciences, a secondary school for holders of the West Africa School Certificate. The buildings, constructed in the early 1970's, include science laboratories, a library, lecture rooms, administrative offices, student housing, and staff housing. These buildings are to become a part of the medical school when the university buildings are constructed on a contiguous site.

The University is situated at the edge of Maiduguri, the capital of Borno state in the northeast corner of Nigeria. The city is isolated because of large distances from other centers of population and poor communication links. The climate of Maiduguri has greater extremes than does that in any other part of Nigeria--the temperature can drop below 50°F, and the mean high temperature in May is 107°F.

When the University was created in March of 1976, it also inherited some of the faculty and students from the College. Most of the students transferred to the new two-year program so as to prepare for entrance to university-level courses. The present enrollment in the latter courses is 65 students of whom five are in Science. Another 650 students are enrolled in the two-year preparatory program called Basic Studies. Two reasons were given for the low enrollment in the first year of the undergraduate program: (1) Ahmadu Bello University advertised for students long before Maiduguri could advertise, (2) most students want to enter professional courses and no professional courses are available at Maiduguri at present. An American faculty member stated that the students were a pleasure to teach because they had a positive attitude toward learning.

The enrollment in the University is planned to reach 5,700 by 1983-84. According to the Vice-Chancellor, this enrollment will probably not be achieved so soon. The chief constraint will be the rate of construction of new facilities.

The University plans to offer a three-year undergraduate curriculum. A temporary or interim curriculum for existing departments is being worked out by the present staff. When more members of staff have arrived, they will review the curriculum and make a fresh start about 1979. Decisions regarding the general mission of the University--particularly in relation to the region served--are also awaiting the arrival of more faculty members.

The University plans to begin the development of the curriculum in Medicine in September 1978 so that senior staff in Medicine will be needed soon. Instruction in Clinical Medicine is to begin in 1980. By that time a 600-bed teaching hospital should be ready.

The small faculty of a little more than 25 is approximately 40 percent Nigerian. This percentage should increase but not in the immediate future. The University will attempt initially to develop some new staff by recruiting students finishing the first degree elsewhere and providing them with study fellowships. The institution will be at a disadvantage vis-à-vis established universities because it will not produce significant numbers of graduates for several years. The proposal of Bayero University in Kano of a special relationship of plateau-area universities to ABU was not favored. They wish to recruit from all Nigerian universities. Their strategy is to employ one or two outstanding staff members for each department and have these individuals recruit from among their professional acquaintances. Recruitment is likely to be difficult in the early stages.

Any expatriates who are recruited should be motivated by a pioneering spirit and should be flexible. They will have adequate staff housing. One constraint is inadequate education for children; however, a staff school is planned. Opportunities for expatriates to conduct research are limited.

The University wishes to establish one or more links with American universities to obtain help, particularly in the areas of Medicine, Agriculture, Hydrology, and Veterinary Medicine. They would also welcome some help in other departments.

UNIVERSITY OF MAIDUGURI - PROJECTION OF FIRST DEGREE ENROLLMENTS BY DISCIPLINE - 1976/84

(Choice of Disciplines based on the Tentative Agreement by the Academic Planning Group at its Meeting of June 1st and 2nd 1976.)

Discipline	1976/77	1977/79	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
1. Agriculture	--	--	100 (5)	200 (10)	300 (20)	450 (30)	600 (40)	700 (50)
2. Education	200 (10)	400 (10)	600 (20)	800 (25)	1000 (30)	1100 (30)	1200 (35)	1200 (35)
3. Humanities	100 (15)	200 (25)	300 (30)	400 (40)	500 (45)	550 (50)	600 (60)	650 (60)
4. Law	--	50 (5)	150 (10)	200 (15)	300 (30)	400 (40)	500 (50)	600 (60)
5. Medicine	--	50 (10)	150 (15)	250 (40)	350 (60)	500 (80)	650 (90)	800 (105)
6. Natural Science	--	300 (35)	450 (50)	600 (70)	750 (95)	850 (100)	950 (110)	1100 (130)
7. Social Science & Business	--	300 (30)	450 (40)	600 (45)	750 (50)	800 (60)	800 (60)	850 (65)
8. Veterinary Medicine	--	--	--	--	--	250 (20)	350 (30)	450 (50)
9. Total Enrollment in all Disciplines	300 (25)	1300 (115)	2200 (170)	3050 (250)	3950 (330)	4900 (380)	5650 (475)	6350 (555)
10. New Entrants	600	650	800	950	10000	1300	1350	1500
11. Science-based New Entrants	250	300	450	500	550	800	700	750
12. Arts-based New Entrants	350	350	350	450	450	500	600	750

Notes:

1. The entries in parentheses are the recommended number of teachers in the Faculties in each department within a Faculty, reckon one Professor and two Senior Lecturers for every staff establishment of ten.

2. The projections assume a mix of entry students with O-level entrants are about 20 percent of the total and O-level entrants of high standing (one-year pre-university courses) accounting for another 30 percent. The rest are O-level entrants admitted into two-year pre-university courses.

3. All O-level science-based entrants take their pre-university courses full-time in the Faculty of Science and the Arts-based O-level entrants take their pre-university courses full-time in the Faculty of Arts.

4. In the basic academic disciplines, the last three years of the degree programme are normally spent on the degree work in the University. During this period, the students take the majority of their courses in the Faculties in which they are registered. Education is an exception, the degree students spend about 1/2 to 2/3 of their lecture time in either the Faculty of Arts or the Faculty of Science depending on whether they are Arts-based or Science-based.

5. All students will take General Studies Course.

Source: National Universities Commission

7. THE UNIVERSITY OF SOKOTO

The University of Sokoto, founded in 1975, differs from the other new universities in that it had no base in a prior institution. The other new universities are outgrowths of educational institutions of some type--vocational or technical schools, sixth-form colleges, or university colleges affiliated with an established university. As a result, the University of Sokoto is temporarily occupying old government buildings rather than school buildings.

The University of Sokoto is one of three universities which are located near the country's northern border. The Islamic nature of the region affects the type and extent of education provided. The area is behind the rest of the country in the development of western-style education. The supply of well-prepared entrants to university is accordingly limited, and it is difficult to attract able students and staff from other areas in Nigeria.

A permanent site has been acquired northwest of the town of Sokoto along a main road leading to the Republic of Niger. The site covers an area of 5,623 hectares (an area larger than the present city of Sokoto). Two-year preliminary courses will be offered in the 1977-78 academic year in the Humanities and Basic Sciences. Three-year undergraduate courses leading to the degrees of Bachelor of Arts, Bachelor of Education, and Bachelor of Science will also be offered in the 1977-78 academic year.

The development of the program at the University of Sokoto is being planned in three phases. The following faculties and departments will be established in Phase One (1977-78): Arts and Islamic Studies, Social Sciences and Administration, Education and Extension Services, Law, Science, Medicine, and Agriculture. Phase Two (1980-85) will see the establishment

of additional faculties of Veterinary Science, Pharmacy and Food Science, and Engineering. Phase Three (1985-90) will be primarily a period of consolidation and growth. The enrollment is planned to grow to 2,000 during Phase One, at the end of which staff houses, administration buildings, and teaching blocks will be available at the permanent site. With further growth the enrollment is planned to be 5,000 by 1985 and to be 10,000 by 1990.

The University of Sokoto has advertised for staff through various papers and through IUC. About 44 offers have been made for posts for next year--of those offered, more than three-quarters are to expatriates. Because of difficulty in recruiting Nigerian staff, they estimate that the majority of the faculty will be expatriate at least until 1980. Officials have been encouraged by the response to their advertisements. However, most are from younger faculty. Hence, they are particularly interested in recruiting senior academic staff, particularly in the Faculties of Medicine, Agriculture, Social Sciences, and Administration. They need help in planning programs, in identifying new faculty, in planning the physical facilities, and in developing research.

They would like to establish linkages with one or more U.S. universities, not only for purposes of securing staff, but also to have a place to send their graduates to do research using sophisticated equipment. The university administration is also interested in attracting individuals who are on sabbaticals, or in bringing specialists to the University of Sokoto for short stays of two or three months. They are looking for pioneers who will prize the opportunity to work in an African university that is just beginning.

UNIVERSITY OF SOKOTO - PROJECTION OF FIRST DEGREE ENROLLMENTS BY DISCIPLINE - 1976/84

(Choice of Disciplines based on the Tentative Agreement by the Academic Planning Group at its Meeting of June 1 and 2, 1976)

Discipline	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
1. Agriculture & Forestry	--	--	--	50 (4)	100 (8)	200 (12)	300 (20)
2. Education	150 (5)	350 (10)	550 (15)	750 (20)	950 (25)	1,000 (30)	1,200 (35)
3. Humanities	100 (15)	250 (25)	400 (30)	550 (46)	700 (60)	750 (63)	800 (68)
4. Law	100 (5)	250 (10)	400 (15)	550 (20)	700 (25)	750 (30)	750 (40)
5. Medicine	--	100 (10)	200 (15)	300 (40)	400 (60)	550 (80)	750 (100)
6. Natural Science	100 (20)	250 (32)	400 (50)	550 (70)	700 (90)	750 (95)	1,000 (125)
7. Social Science	--	--	50 (5)	150 (20)	250 (25)	350 (35)	550 (50)
8. Veterinary Medicine	--	--	--	50 (4)	100 (8)	200 (12)	300 (20)
9. Total Enrollment in All Disciplines	450 (50)	1,200 (87)	2,000 (140)	2,950 (244)	3,900 (291)	4,650 (357)	5,650 (458)
10. New Entrants	450	750	800	950	950	1,200	1,650
11. Science-Based New Entrants	200	350	350	450	450	700	950
12. Arts-Based New Entrants	250	400	450	500	500	500	700

Notes:

1. The entries in parentheses are the recommended number of teachers. For every department in a Faculty, reckon one Professor and two Senior Lecturers for every establishment of ten.

2. The projections assume a 5-year integrated degree programme for some O-level entrants, or a 4-year programme for O-level entrants of high standing (about 10 percent). Some of the new intake (about 10 percent) in any one year may be A-level entrants for the traditional 3-year degree programme.

3. All students admitted with O-level qualifications (into pre-degree courses) in the Science-based disciplines of Natural Sciences, Medicine, Agriculture, Veterinary Medicine, Engineering, Environmental Design and Science Education should normally take all their two-year or one-year pre-degree courses in the Faculty of Science. Similarly those admitted into the Arts-based disciplines such as Law and Business Administration take their two-year or one-year pre-degree courses in the Faculty of Arts.

4. The implication of the above for, say, the Faculty of Science is as follows:

According to the projection, in the academic year 1979/80, there are 400 students registered (Preliminary and Degree) in the Faculty of Science for degree goals in that Faculty. However, as can be seen from Row 11, there are about 200 other Science-based new entrants who should take their pre-degree courses full-time in the Faculty of Science.

If some of the O-level entrants admitted in the previous academic year (1978/79) take pre-degree courses for two years, their number must be added to the 1979/80 new entrants to obtain the total number of preliminary students taking courses full-time in the Faculty of Science.

5. In the basic academic disciplines, the last three years of the degree programme are normally spent on the degree work in the university. During this period the students take the majority of their courses in the Faculties in which they are registered. Education is an exception, the degree students spend about 1/2 to 2/3 of their lecture time in the Faculties of Arts and Science.

6. The degree programmes in certain professional disciplines take longer than 5 years (in the case of O-level entrants). A good example is Medicine lasting 7 years, or 6 years, or 5 years depending on the entry qualifications being O-level, O-level of high academic standing or A-level.

7. All students will take General Studies Course.

Source: National Universities Commission

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